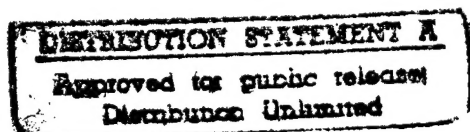


LEGAL CONSIDERATIONS OF THE DESIGN/BUILD CONTRACTING METHOD

By

DOUGLAS F. FEE



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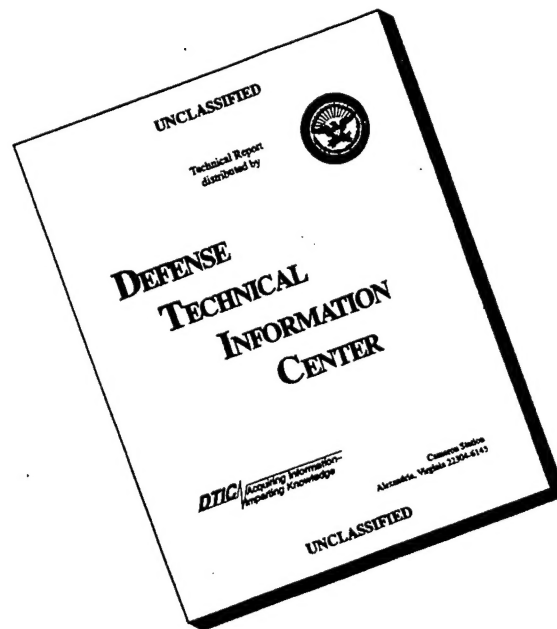
A REPORT PRESENTED TO THE GRADUATE COMMITTEE
OF THE DEPARTMENT OF CIVIL ENGINEERING IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTERS OF CIVIL ENGINEERING

UNIVERSITY OF FLORIDA

SUMMER 1996

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CHAPTER I

INTRODUCTION TO DESIGN/BUILD

1.1 Objective of Report

The intent of this Masters Report is to familiarize the reader with the legal aspects of the design/build project delivery method. This method is becoming increasingly popular in the public and private sector, and it is important for Architects/Engineers, Contractors, and Owners interested in this method to fully understand and be aware of its many advantages and disadvantages, as well as its legal differences to the more traditional methods of construction contracting.

This manuscript also serves as a final report submitted to fulfill the terms and requirements to complete a Masters in Civil Engineering.

1.2 Background of Design-Build

The design/build method of project delivery is, by no means, a new concept. In medieval times, when an owner wanted something constructed he notified a master builder and explained his idea. With the information provided by the owner, the master builder was responsible to turn this idea into a reality. The master builder possessed the complete range of knowledge required to carry out each step of the project from concept to operation. Often there were no plans, only an image in the designer/builder's head on how the structure should be built. With this single person responsible for all the project decision-making, communication was enhanced and the knowledge and information on the project was readily available.

The master builder concept of project delivery worked quite well for hundreds of

years. However, as buildings and structures became more and more complex, it became increasingly difficult for one individual to control all the construction operations. Projects were soon divided into a design phase, with an architect, and a construction phase, with a contractor, and each individual was responsible for their respective phase. This gave rise to the "traditional" project delivery system of Design - Bid - Build.

The capitalist American economy was well suited for the lump sum bid method, and it was the standard contract method used until the late 1950's. At this time, certain shortcomings with this method began to appear. Inflation was driving construction costs up at an alarming rate, legal costs due to contract disputes were on the rise, and project completion time was becoming a more important factor. Owners began looking for a new contracting method that was less complicated and time consuming. The design/build project delivery method was one alternative that showed considerable promise.

The design/build teams that evolved in the 1950's were organized along functional lines, with a project engineer or manager coordinating the design, procurement and construction departments. A task force type organization was generally established with the project manager in charge of personnel from each of the different departments. This task force idea was initially very popular with clients and top management. However, within the design/build firms, friction soon developed between the project managers and the functional managers--they are the managers for specific engineering departments, such as structural or civil department manager--who were losing control of their assets. As this method became more popular, additional task forces were established with fewer senior engineers and construction personnel. Due to a lack of cooperation between the project

managers and the disgruntled functional managers, inferior projects were being produced, lessons learned were not being shared, the overall consistency began to deteriorate, and there were no checks and balances between the different functions. Owners began to shy away from design/build, and it was nearly non-existent in the U.S. in the late 1970's and early 1980's.

In the early 1980's there was a big push in the construction industry to revive the design/build method. Many owners wanted the benefits that design/build provided and encouraged the firms to make changes to improve this method. Seeing the opportunities in a rejuvenated market, many companies made many of these market-driven changes, and in the last decade the number of design/build contracts has steadily increased.

Engineering News-Record reported the total volume of Top 400 design/build contracts more than tripled from 1987 to 1992, from nearly \$25 million to \$81 million. In 1993, the total fell to a little more than \$71 million, but this was largely due to a general decline in the entire construction market for that year. Experts remain optimistic, however, and Preston H. Haskell, president of The Haskell Co. and chairman of the Design-Build Institute of America, claims " design-build is alive and well" as a project delivery system.

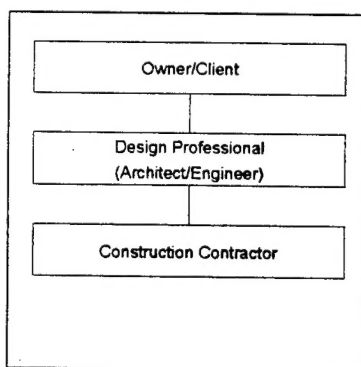
1.3 Description of Design/Build

Design/Build can be looked at as a team-based system organized to provide efficient design and construction practices, where the owner contracts with a single entity to provide all the services necessary to deliver a completed project. This single point of responsibility is the key to design/build and it is what fundamentally separates this method from any other contracting method. Although there are several variations of the design

build method, the following four types of contractor organizations are most commonly seen:

1. Type "A": Design Professional as Primary Contractor
2. Type "B": Contractor as Primary Contractor
3. Type "C": Design Professional/Contractor Joint Venture as Primary Contractor
4. Type "D": Design/Build Organization as Primary Contractor

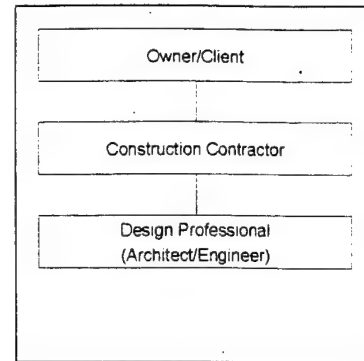
In Type "A" design/build, the client has a single contract with a design professional to perform all engineering and construction services required for a completed project. The design professional performs all the necessary design work and then obtains the contractor of his choosing to complete the construction. Generally, the design professional has a construction manager on staff to closely monitor the contractor's progress. It is important to note that unlike the traditional method where the designer's responsibilities are limited to the design and possibly the administration of the construction contract, the Type "A" design/build contract holds the designer responsible if the project does not conform to the



requirements of the construction documents as approved by the client. Also, the designer is held responsible if the project is not completed in a good and workmanlike manner. Due to the large resources required, this method is not widely used as few engineering firms have the resources to undertake such an endeavor.

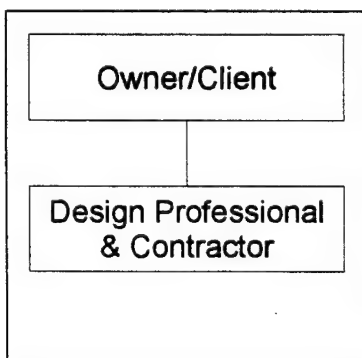
Type "B" design/build is one of the more widely used methods simply because there are more contractors able to accept such a large responsibility. In type "B", the

client contracts directly with a construction contractor who then contracts a design professional to generate the plans and specifications. The design professional is still responsible to ensure the design conforms to all applicable codes and standards of professional practice, but he is accountable only to the contractor. The contractor is now responsible for the conformance of all applicable codes as well as the project



being completed in a good and workmanlike manner. Another major difference between type "A" and type "B" is the contractor may not be responsible to the client for failure of the project's construction to conform to the construction documents. This is true because the construction documents are prepared by the designer who works for the contractor. The contractor may stray from the construction drawings as long as he upholds his professional standard of care which will be discussed in later chapters. Depending on the language of the contract between the client and the contractor, the client may have only limited approval power of the actual construction documents.

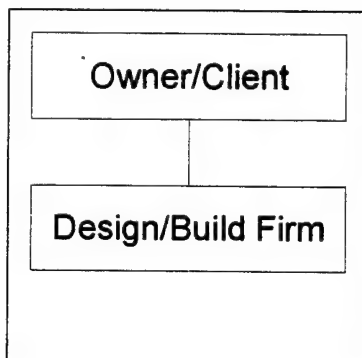
The type "C" design/build method is somewhat more complicated and difficult to organize, but it is often used by contractors and design professionals willing to share the



overall responsibility of the project. In this method, the designer and contractor enter into a joint venture agreement in which they contract with the client to perform all the design and construction services for a project. In large contracts, this joint venture physically

exists, with employees that subcontract the design and construction duties to the applicable parties. In most cases, however, both parties know their duties and work together, with all profits or losses being evenly distributed amongst the parties. Both parties are responsible for the design to conform to all applicable codes and standards as well as the construction to be performed in a good and workmanlike manner. Although indemnification may be available if the other party is clearly at fault, this can be a risky alternative for a designer or contractor with limited resources.

Many firms are fast moving toward the type "D" arrangement, where the design/build organization is a single legal entity. This type of organization is made up of



design professionals, construction managers, and a sufficient labor force to complete the construction process.

In this arrangement, the design/build organization takes full responsibility of all phases of the project, and unlike the type "C" joint venture agreement, indemnification is not legally possible if a problem arises. Design/build

organizations are generally large firms with the resources available to undertake such a major responsibility.

1.4 Turnkey Project Delivery Method

Any discussion of design/build would be remiss without mentioning the turnkey project delivery method or Build-Operate-Transfer (BOT). Both of these terms are often used interchangeably with design/build, but there are some basic differences. The significant difference is that the turnkey contractor provides a comprehensive set of

project-related services beyond design and construction. These services may include:

- Financing the project
- Identifying and procuring the construction site and site data
- Obtaining regulatory permits
- Designing and constructing the project
- Operating and maintaining the facility for a specified period of time

Turnkey gets its name from the idea that the turnkey contractor simply turns over to the client the keys to a fully functioning and operating facility. The turnkey procedure is most often used on specialized industrial design projects sewage treatment plants and process plants. Just recently it was used to complete 43 miles of toll road around the city of Denver. The turnkey contractor agreed to finance the initial \$5 million in design work and offered a \$100 million subordinated debt to establish a letter of credit. The contractor, in turn will be paid an unspecified amount and will operate the toll road and keep the tolls until the balance of the contract is collected.

1.5 Chapter Summary

The four basic design/build arrangements are distinguished from each other by the primary contractor, or the party that contracts directly with the client. This single point of responsibility is what differentiates design/build from other project delivery methods. To fully understand what this single source of responsibility means to the owner and the design/builder, it is necessary to compare and contrast this method to more traditional methods. Chapter II takes a look at the traditional methods of construction contracting.

CHAPTER II

COMPARING DESIGN-BUILD WITH THE TRADITIONAL METHOD

2.1 Need For Alternate Construction Methods

Although design/build has dramatically increased in popularity in the last decade and many experts are calling design/build the contracting method of the future, there are still those experts who are not convinced. The competitive bid method, commonly called the "traditional" method, has been in use for the last 150 years, and is was still the method used in 95% of all construction contracts in the United States in 1995. Many organizations such as the Associated General Contractors of America (AGC) and the American Road and Transportation Builders Association (ARTBA) strongly support this method and oppose changing to design/build. Many owners are stubborn to the idea of design/build, as they familiar and comfortable with the traditional method. In many areas of the public sector, laws still exist that do not allow design/build and force all contracts to be competitively bid in an effort to promote fairness. In the power/communication utilities market, for example, only 5% of all projects from April 1993 to April 1994 were completed using the design/build approach, and less than 1% of all new schools, libraries, and museums over the same period. To fully realize the benefits of the design/build project delivery method, it is important to understand the advantages and disadvantages of this contracting alternative.

2.2 Traditional Method

The traditional method is a competitive bidding process which is based on America's belief in a free enterprise system. It was originally used to meet two public

policy objectives - prevent corruption and mismanagement of fund by public officials and to provide the taxpayer with new construction projects at the lowest possible price. This method of project delivery has evolved into a fairly regimented "phased" process. The American Institute of Architects (AIA), the Engineer's Joint Contract Documents Committee (EJCDC), and the Construction Specifications Institute (CSI) have adopted the following procedures for this method:

- Programming, then
- Schematic design, then
- Design development, then
- Construction documents, then
- Bidding, then
- Bid analysis and award, then
- Construction, then
- Start-up and commissioning, then
- Project turnover to the owner.

The phases are arguably considered well defined, and each phase must be completed before the next phase may begin. Advocates say a design and construction schedule can be generated more easily using this method, and all the parties can determine their exact responsibilities by the definitions found in the construction documents.

The traditional method begins when the owner or client hires a designer (generally chosen by qualifications and experience and not necessarily lowest bid) to prepare the plans and specifications for the project. Often, the designer is also responsible for

construction management, which consists of inspecting, monitoring, and handling the questions that arise during the course of construction. The owner will then advertise the project and make available to prospective contractors a complete set of plans and specifications. The contractors will review the plans and submit a bid based on their estimate of the costs. The lowest bidder is then awarded to contract. Generally, the contract will be either a firm fixed-price or cost-plus-fee agreement.

There are numerous advantages in using the traditional method to both the owner and contractor. First of all, it is historically supported with well-established legal and contractual precedents. Secondly, the overall costs are determined prior to the construction contract being awarded. The owner benefits through the competitive nature of the bidding process by obtaining the lowest price for the construction. In addition, the contractor assumes all the construction risks. The contractor can benefit because there is limited owner and designer involvement in the construction process, and innovative ideas may allow him to maximize profits.

Despite these benefits, there are numerous disadvantages. First of all, the designer usually has limited construction experience, and things that look nice on paper may be extremely difficult to construct. The overall design and construction time is generally much longer than design/build because the design phase must be 100% complete prior to beginning the construction. To be the lowest bidder, the contractor is often forced to use marginally qualified subcontractors. Because of the competitive nature of the bidding process, contractors can not bid with contingencies to cover a reasonable number of design errors and omissions. Many contractors find they can bid low and recover the

difference through change orders generated from design errors and omissions. Another negative for the contractor is that he nearly always absorbs the costs of bad weather, labor disputes, material cost increases, and other external factors that affect the overall project cost.

The primary problem with the traditional method, however, is there is no shared vision or shared goals between the parties. Each party has its singular interests at the forefront of all its decisions. The role between each of the three parties often turns adversarial, with the contracts that bind them together becoming the grounds for their disputes and claims. So many of these disputes have arisen that the traditional method has been nicknamed "Design-Bid-Build-Sue."

2.3 A + B Method

Another form of competitive bidding being used in the public highway construction industry is a relatively new approach being which entails bidding on cost and time (A + B method). In addition to a cost proposal for the project, the contractor also proposes a time duration. A User Cost is calculated based on the concept that the uncompleted project represents a time dependent cost for the owner. This cost is applied to the proposed duration and a cost for time is generated. The lowest combination of bid cost and total user cost is awarded the contract. This method has worked well on many road construction projects and has shown a significant cost savings in many cases. However, the competitive nature of this method leads to many of the same disadvantages as the traditional method. In addition, the user cost is difficult to calculate, and with more emphasis on the duration of the project, disputes are likely to arise over any delays.

2.4 Advantages and Disadvantages of Design/Build for the Owner

In search of alleviating many of the disadvantages of the traditional method, owners searched for new alternatives. The design/build approach is one such alternative. This approach provided owners with many advantages over the other contracting methods.

1. With only one contract, the owner has a single source of responsibility to complete all the design and construction activities of the project. This single source of responsibility reduces many of the arguments over responsibility for errors or omissions, faulty performance, or coordination problems between the designer and contractor. It can also reduce the client's management and administrative burden since the client only needs to deal with one entity with respect to any decision-making activities. The client no longer has to serve as a facilitator and communicator between the designer and the contractor. In addition, only one set of accounts is necessary to be maintained for design/build projects.

Another major advantage the single source of responsibility gives to the owner is protection from liability. In the traditional method, the owner impliedly warrants the accuracy of the contract documents and is open to additional expenses or possibly claims for any errors or omissions in the plans and specifications. In design/build, the client is normally protected from this liability based on the legal conclusion that the liability that a principal owes to another does not occur in design/build. The responsibility is simply reversed. Liability issues are discussed further in Chapter V.

2. Another advantage for the client is the reduction of total project delivery time. This project time reduction occurs for several reasons. One reason is the reduction

of construction documentation along with the overlap of design sequencing. For example, the designer will know the building layout prior to knowing the architectural details of the project. The designer can simplify the documentation for the site work and any underground utilities to enable the design/build firm's contractor to begin site grading and foundation construction. By sequencing design and construction in this manner, considerable time may be saved.

The collaborative decision-making effort by the designer and contractor can also be a huge time-saver. In the traditional approach, the designer generates the plans and specifications without knowing which contractor will complete the construction. In many cases, the designer will have limited construction experience. In the design/build approach, the designer is afforded the input of the contractor from the start. In this way, the design/build team can focus on how the project will be built, and not just what is to be built. The construction documents will incorporate the construction ideas of the contractor, often resulting in a simplified design that can be built much faster and at a lower cost.

3. The organization of a design/build entity also makes requesting information on changed conditions or differing site conditions a much faster process than other contracting methods. In the traditional approach, if the contractor runs into a problem where he needs additional information he must first request the information from the client with whom he has a contract. The client will get the information from the designer and pass it along to the contractor. If the change involves additional costs to the contractor, a change order must be issued before the contractor may proceed with the work. This can

be a time-consuming process. The design/build approach allows the contractor and designer to discuss the problem directly, many times without the client being involved. A formal change order is usually not necessary since both the design and construction are the responsibility of the design/build entity.

4. The owner is also the beneficiary of creative design solutions for their project. With the designer and contractor working together toward the same goal, there is a greater chance for each to use their skills and talents and to avoid any weaknesses one may have. This coordination during the design process often leads to inventive solutions that are not normally considered in the traditional approach.

From the client's point of view, the above advantages may appear very convincing. Unlike the traditional method, the client is not actively involved in the project after award of the contract except for minimal administrative work. The single source of responsibility makes it easy for the client if the project is not ready on time, or if there are problems after construction. With all these advantages, why are so many clients still leery of the design/build method? The following are the disadvantages of design/build for the client:

1. Since many design/build contracts begin work before the construction drawings are completed, there is generally not a firm fixed project cost until construction is well underway. Beginning the construction prior to completed drawings is listed as an advantage since it normally shortens the entire project time. But it can also be a liability if the project will cost more than originally anticipated and changes have to be made after the construction has begun. If a fixed price is determined prior to construction, quality and performance may be sacrificed to ensure the design-builder makes a profit. *

2. The organization of the design/build method puts the client "out of the loop" of communication between the designer and contractor. Again this is also listed as an advantage, many problems and questions that are normally channeled through the client are now resolved in-house by the design-builder. Because of this, the final result may not fully meet the expectations of the owner.

3. Because of the high risks involved in design/build contracts, a Type B arrangement is most common. Many clients fear these arrangements, because the contractor is more liable to skim on the design or to hire a less qualified designer based on lowest price. Although this assumption is not backed up by historical data, it is a common fear often cited by clients.

4. The most common fear clients have of design/build is the loss of the designer as an independent professional advisor. In most contracting methods, the designer will manage the construction for the client, ensuring the contractor meets all the standards specified in the construction documents - a "check and balance" of sorts. However, regardless of the design/build organization, both designer and contractor are in the business to generate a profit. Owners fear problems that normally would have been noticed and changed by the designer will now be overlooked or passed over.

2.5 Advantages and Disadvantages of Design/Build for the Contractor

There are numerous benefits of the design/build approach for the contractor. The biggest reason cited by contractors is the increased control over the project. Contractors are better able to implement their construction experience in the design process. With the contractor's ideas being used, the end product is more apt to be a quality project that is

easier to construct. Along this same line is the increased job satisfaction realized by the design/builder. Being intimately involved in the entire process tends to make the design/builder strive harder for a quality end product. The contractor also benefits by the ability to communicate directly with the designer, something they cannot do in the traditional method. Combine this increased communication with the common goal shared by both parties, and as problems arise they tend to get resolved much faster. All of these benefits will, hopefully, lead the contractor to one thing--increased profits.

As with the client, some of the advantages for the contractor can also be a disadvantage. The increased control realized by the contractor also means increased responsibility for the success of the project. In all four types of design/build organizations, they assume additional risks of liability and/or are denied using certain liability defenses. (Liability issues are discussed in Chapter V). Insurance and bonding are difficult to obtain for the design/builder, and they generally must pay a high premium. (Insurance and bonding are discussed in Chapter VI).

2.6 Comparing Design/Build versus Traditional Method

A study completed at the University of Illinois looked at 209 recently completed military construction projects, comparing the average performance of traditionally managed ones with those using alternative methods--partnering, design/build, and combinations--to project delivery. Criteria in selecting the projects were as follows: each was completed in the U.S.; the minimum value was \$500,000; all were funded in fiscal year 1988 or later; and no family housing was included. Of the 209 projects, the study included 90 traditional projects, 63 partnered ones, 40 design/build projects, and 16

combinations.

The study looked at four performance indicators: Cost Growth, Schedule Growth, Modifications per Million Dollars, and Modifications Due to Design Deficiencies. Figure 2-1 show the results of the traditional and design/build methods.

Performance Indicators	Traditional	Design/Build
Cost Growth (%)	8.48	6.37
Schedule Growth (%)	27.76	26.23
Modifications per Million Dollars	8.3	6.8
Modifications Due to Design Deficiencies (%)	41.84	9.39

Based on this study of 209 military construction projects, it can be seen that the design/build method performed better in all aspects to the traditional method. The biggest difference was in the modifications due to design deficiencies, which was to be expected due to the nature of the design/build process. It is a little surprising the schedule growth was so high for the design/build process at 26.23%. However, it should be pointed out that the projected schedule for similar projects was less for design/build than traditional, and even with this 26.23% growth, design/build projects finished earlier than traditional projects.

2.7 Chapter Summary

Owners wishing to construct a facility must carefully determine which project delivery method is best suited for their needs. The traditional method has a deep-rooted

history in United States construction and is still preferred by many of the major construction organizations. Conversely, design/build is a relatively new method in the U.S., yet is winning over clients due primarily to its single source of responsibility and its faster design and construction time features. However, not all types of construction projects are suited for the design/build method. Chapter III takes a look at those features that make projects well-suited for the design/build approach.

CHAPTER III

SUITABILITY OF THE DESIGN/BUILD CONTRACTING METHOD

3.1 Nature of the Project

From the last chapter, it is obvious that there are numerous advantages and disadvantages to the design/build project delivery approach. The client must weigh these factors to determine whether the design/build approach is the best for his/her project. Another consideration in determining which contract method to use is the nature of project to be completed. A highly technical project such as a petro-chemical plant will require much greater detail and expertise than a tract housing complex. Nearly any type of construction project can be completed using the design/build method, however, all parties need to have a clear understanding of the terms of the contract in order to achieve satisfaction with the end result.

Design/build was once associated with "cookie-cutter" type warehouse and manufacturing facilities or similar projects that did not require detailed owner input. While it is true, simple repetitive projects such as fast-food restaurants and tract housing are well-suited for the design/build method, owners are now using this method on a broad range of general construction projects. Five percent of all the hotels, dormitories, and office buildings constructed in the U.S. in 1994 were completed using the design/build method, and this percentage is increasing. Design/build is also becoming increasingly popular in the health care community as there becomes a greater need for nursing homes and more medical clinics. Civil infrastructure is also moving in this direction, although not quite as quickly. International infrastructure is a new frontier that looks very promising.

The build-operate-transfer approach is becoming popular in developing countries which do not have the money to finance the projects and must rely on the design/builder for financing. Nearly all facets of the general construction industry have at least attempted the design/build approach with some success.

The area where design/build has made the largest increase is in the high technology construction projects. According to *Engineering News-Record*, in 1995 the Top 20 design/builders list power plants and industrial plant projects among the work in which they specialize. A major reason for this is many owners do not have the knowledge or experience with this types of facilities. They turn to the design/build method and rely on the expertise of a joint contractor-designer effort to provide a state-of-the-art facility according to their performance specifications. Other areas where the design/build approach is becoming increasingly popular is in the space program, environmental protection and clean-up, and computer technology.

3.2 Selection of Procurement Method

There are no specific guidelines for the private owner to follow when determining which procurement method to use. The federal government, however, has developed a list of certain factors that must be considered in weighing the suitability of the design/build procurement method. Although not required by law, many private owners would benefit from this list:

- Special goals and objectives. Design/build is a good candidate in emergency situations or when the project must be started before the normal lead time for design preparation.

- Security. Specific security requirements may necessitate a design/build contract.
- Historic register and environmental considerations. Renovations involving historic buildings or questionable environmental conditions must be considered.
- Building Type. Repetitious or large volume construction should be considered as well as any research and development work.
- Design criteria, specifications, and construction details. Many design/builders are unwilling to bid if the project is restricted with specific design criteria and specifications.
- Site design and accessibility. The location of the project site must be considered. Multi-site projects and projects in remote locations may not be suitable for the design/build method.
- Availability of construction funds. Since construction generally begins sooner in design/build it is important that funds are available for progress payments as stipulated by the contract.

3.3 Capabilities of Available Firms

Another major consideration for the owner before deciding on the design/build method is the availability of experienced design/build firms. Although owners and contractors alike are looking favorably at design/build contracts, design/build still only accounted for less than 5% of all the construction in the United States in 1995. "The number [of firms] that want to market themselves as design/builders is still relatively

small," claims Jeffrey Beard, executive director of the Design-Build Institute of America.

By going with the design/build method, owners may be excluding designers and contractors that are much better suited and more capable to complete the project, but who are not yet ready to take the risks of design/build.

CHAPTER IV

DESIGN/BUILD CONTRACTING DOCUMENTS

Once an owner has made the decision to go forward with the design/build contracting method, the next major decision is the wording of the contract itself. There are several standard contract documents available, including forms from the American Institute of Architectures (AIA), the Associated General Contractors (AGC), and the Engineers' Joint Contract Documents Committee (EJCDC). All of these forms are basically the same with only minor differences. Obviously, the owner wants to have the contract worded in his favor and shift as much risk to the contractor as legally possible. Conversely, a prospective design/builder is reluctant to sign such a document, and wishes to have a contract worded in their favor.

4.1 Why Use a Standard Form Document?

Probably the most important reason to use a standard form design/build contract is because these are the most comprehensive and readily available documents which includes most of the issues likely to arise in design/build projects. They are constantly being refined and updated as new issues arise. Obviously, there is always a concern that these documents are drafted in favor of the party whose organization prepared the documents. However, the standard documents have proven to be more fair and equitable than in customized documents. Most experienced construction professionals will, at the very least, use the standard documents as a basis and make modifications as needed.

The decision on which set of documents to use is primarily based on the specific project and the preference of the owner. The most critical item is that the documents are

chosen to best suit the circumstances of the particular project. The AIA Document A191 is the most popular choice of owners and design/builders in a Type "A" organization. They are the most adaptable to the different arrangements of design/build entities. They are also more comprehensive than the other documents. The AGC documents only deal with the Type "B" situation in which the contractor contracts with the client and subcontracts the design portion to a designer. These documents are not easily modified to deal with the other arrangements.

4.2 AIA Document A191

AIA Document A191, the Standard Form of Agreement Between Owner and Design/Builder was first written in 1985. A copy of the form can be found in Appendix A. The document assumes the client is contracting with a design/build firm. The document is comprised of two agreements which are intended to be used in sequence. Part 1 covers the preliminary design, cost estimating, scheduling, and value engineering services in order to determine the scope and feasibility of the project. It consists of ten articles with provisions on arbitration, scheduling, terms of compensation, and the responsibilities of each party. The client evaluates the results of Part 1, to determine whether to proceed with Part 2. The parties are not bound to execute Part 2, which can happen if the projected cost is more than the owner can afford. Part 2 provides for the completion of the project's design and construction. It is composed of fourteen articles that deal with insurance requirements, changes or corrections to the work, and other construction related issues.

One of the most critical items of interest to both the design/builders and the client is

the how the contract documents defines their respective services and responsibilities. The concept of liability will be more fully discussed in the next chapter, however, it is important to know that the imposition of liability is largely determined by the wording of the contract. For example, AIA Document A191 makes the design/build entity solely responsible for all design and construction activities, with no opportunity for any contractual relationship between the owner and any third party. What this means for a design/builder who subcontracts the design to a design professional is that the design/builder is now legally responsible for the accuracy of this design. It also makes it easier for the owner, if he can hold the designer liable without having to go through the design/ build entity. If the design/builder and owner wish to have the owner look solely to the architect for ultimate design liability, modifications to the standard form are necessary.

Another section that is often modified is the Arbitration article found in both Parts of the documents. This article mandates all claims and disputes will be resolved by arbitration. This may not be in the best interest of both parties and is often modified to allow the parties to have unsolved disputes resolved in a court of law. The prudent design/builder and owner will review each individual project and determine what, if any modifications to the standard forms are necessary. The negotiation of fair and equitable contract terms is vital to both parties.

4.3 Design vs. Performance Specifications

Aside from the standard documents, another important consideration for the owner and design/builder is the difference between design and performance specifications. Courts refer to the contract specifications as design specifications when the owner has

dictated the details of the contractor's performance, and performance specifications when the details are generated by the contractor. Performance specifications are the norm in design/build, where the owner will give the design/builder the scope of the project and what the expected performance of the end product shall be. However, many owners wishing to have more control over the project will also include design specifications in the contract. As the following examples demonstrate, including both design and performance specifications in a design/build contract can present interesting legal situations.

In *Aleutian Constructors v. United States*, The Army Corps of Engineers hired Aleutian to design and construct a \$12.8 million airplane hangar and dormitory in Alaska. During the course of construction, high winds partially destroyed a portion of the hangar roof and roof membrane. The contractor redesigned and rebuilt the hangar roof and membrane at its own expense. Upon acceptance of the project, Aleutian filed a claim for the cost of the repair. Aleutian claimed it followed the design specifications set forth by the Corps, therefore the Corps is responsible for the cost of repair. The Corps rejected the claim, stating Aleutian had dictated performance specifications for the roof thereby accepting full responsibility. The contract from the Corps simply stated the roofing materials should meet an 80 p.s.f. test requirement, but the design and construction of the roof was left to the discretion of the design/builder. The court determined this requirement could not be construed as a design specifications, ruling in favor of the Corps.

The above example seems fairly straight forward, but there are situations that are not as clear. In *Utility Contractors v. United States*, Utility was to build a concrete flood

control system. During construction, a rainstorm damaged much of the concrete work. The contractor claimed for damages since the contract specified a number of acceptable construction procedures the contractor was authorized to use. The contract also stated the contractor was to use "its own judgment and expertise" in deciding what method to use. The courts ruled this disclaimer construed a performance specification and denied the contractor's claim.

In these examples, both design and performance specifications existed in the contract. Although both examples sided with the owner, there are numerous cases where the specifications were determined to be design specifications and the courts ruled in favor of the contractor. The important thing for both owner and design/builder is that they fully understand the terms of the contract. The nature of the design/build project delivery method makes it more difficult than traditional methods to determine where the liability lies when problems arise. Chapter V looks at the concept of liability on design/build projects.

CHAPTER V

DETERMINING LIABILITY ISSUES IN THE DESIGN BUILD METHOD

5.1 Liability

The concept of liability is deep-rooted in the construction industry back to the days of the master builder. When the roles diverged, the laws of the day were adjusted for the differentiation between the design and the construction phases. In modern times, the traditional methods of contracting have well-established laws in which the construction professionals are typically liable only for their own actions or failure to act based on three theories of liability: breach of contract, negligence, and statutory violations. However, using the design/build approach many of these concepts change. In the design/build method, construction professionals can still be held responsible for their errors and omissions as well as those of their associates.

In the era of the master builder, liability was absolute and unconditional. The following is an excerpt from the *Code of Hammurabi*:

If a builder has build a house for a man, and his work is not strong, and if the house he has built falls in and kills the house-holder, that builder shall be slain.

If the goods have been destroyed, he shall replace all that has been destroyed; and because the house that he built was not made, and it has been fallen in, he shall restore that fallen house out of his personal property.

If a builder has built a house for a man and his work is not done properly, and a wall shifts, then that builder shall make that wall good with his own silver.

This is obviously a simple yet absolute code to follow and enforce. With the divergence of the roles of the designer and builder, it became increasingly difficult to determine responsibility for design and construction related issues. Today, America has

well-established laws backed by numerous court cases that support many liability issues for traditional contracting methods. Many of these laws apply to design/build contracts as well, but there are additional theories of liability that have a special application to design/build.

To understand the theories of liability, it is first necessary to know what liability means. Liability can be defined as a situation in which one party is legally obligated to assume responsibility for another party's loss or burden. Two elements must be present for liability to be recognized:

- The existence of an enforceable legal duty to be performed by one party for the benefit of another.
- The failure to perform the duty in accordance with applicable legal standards.

A duty is an obligation or standard of conduct. There are three sources of legally enforceable duties: contracts, common law, and statutes and regulations.

A contract is an agreement between two or more parties consisting of one or more legally enforceable promises that the law recognizes as a duty to be performed by one of the parties. To be a legal, a contract must consist of four elements

- Mutual consent: Parties must agree on all terms of the contract.
- Consideration: Each party's promise must be supported by or give in return for a legally sufficient consideration. In construction contracts this is normally the client's promise to pay and the contractor's promise to perform the work.
- Legal Capacity: Each party must be legally capable of entering into a binding agreement.
- Contract must not be void by statute or by rule of common law: Contracts are void and unenforceable if they are illegal.

Common law is a second source of duty and comprises the principles of conduct based on usage, custom, or commonly held beliefs as interpreted by the courts. Common law is constantly being redefined as the courts attempt to reflect current values of society in their decisions. Common law has developed professional standards of care through their rulings. For design professionals, current common law states they must possess a degree of learning and skill normally possessed by design professionals in good standing in the same locality. Furthermore, it is the design professionals duty to use the same level of care as reputable members practicing in the same locality. Designers are not expected to be perfect, and courts have ruled in favor of designers who have demonstrated proper standards of care.

Statutes and regulations of the various federal, state, and local rule-making bodies are the third source of duty. These regulations are constantly changing and may vary greatly from one area to another. Unlike common law and contracts, statutes and regulations are legal laws that prescribe or prohibit conduct.

5.2 Traditional Liability Theories for Contractors and Design Professionals

In today's construction industry, there are three theories of liability based on a violation of any one of the three duties:

- Breach of contract
- Tort of Negligence
- Statutory Violations

Each of these theories are present in the traditional contracting methods but also apply to the design/build projects.

A breach of contract is the failure of one party to a contract to properly perform some contractually described obligation in accordance with the terms of the contract. In order for a party to be held contractually liable, the plaintiff must demonstrate three conditions:

- A legal, enforceable contract exists between the plaintiff and defendant
- The defendant materially failed to perform one or more duties defined in the contract as his/her responsibility
- The plaintiff must have suffered damages as a result of this failure to perform the duties.

In a breach of contract, the contract is the source of duty, and the existence and scope of obligations interpreted from the contract documents.

A tort of negligence is difficult to determine, but it is important to realize it is not a breach of contract. A tort is simply a civil wrong committed by one party against another. There are many types of torts, but the one most common in the construction industry is an unintentional tort. Unintentional torts arise from acts which result in harm to another because the defendant did not conform his or her conduct to the standard of care required by common law. This substandard performance is commonly called negligence. To prove an unintentional tort, there must be a legal connection, or proximate cause, between the breach of duty owed by the standard of care and the injury suffered by the party to whom the duty was owed. If proximate cause can be proven, courts have traditionally ruled in the plaintiff's favor.

The third theory of liability is statutory violations. This type of violation occurs when one party is required by statutes and regulations to perform a particular duty or obligation. In these cases, the defendant must prove that a violation of a regulatory requirement or duty has occurred, and this violation caused some damage or injury to

persons or property. A good example of a statutory violation is in the removal of hazardous waste from a jobsite. If the contractor fails to follow applicable state and local regulations, although not specifically mentioned in his contract, he may be found to have committed a statutory violation.

5.3 Additional Liability Concepts for the Design/Builder

The three concepts of liability described above can refer to both traditional contract methods and design/build. However, there are two additional concepts the design/builder must be particularly aware of: (1) breach of warranty and (2) *strict liability*.

A warranty is simply a promise that a statement about some fact is true and that is will continue to be true. If for any reason the statement is proven false, the "promisor" may be liable for any damages incurred by the "promisee." An *express warranty* is a promise made by one party that is clearly stated, either orally or in writing. Due to the single source of responsibility in the design/build organization, inclusion of an *express warranty* in the parties' contract is far more likely than in the traditional method. The design/builder is far more likely to agree to these terms because both designer and constructor typically have worked together before and know each other's capabilities.

An example of a breach of *express warranty* is the case of *Fort Howard Paper Co. v. Standard Havens, Inc.* Standard Havens, Inc. was contracted to design, build, and install a pollution control device in the company's newly constructed plant. The device was to filter fly ash from the flue gases prior to their emission. Fort Howard wanted a guarantee the filter would not clog as any clogage required greater power from the plant to remove the gases. Standard Havens, warranted the device against clogage with a

statement in the contract documents indicating the maximum pressure drop was not to exceed six inches of water. Fort Howard sued when the pressure drop consistently exceeded this level. The court ruled that Standard Havens had breached an express warranty and ruled in favor of Fort Howard.

The second theory of liability of particular importance to the design/build approach is *strict liability*. If a court views the design/builder as providing a product, the court may hold the design/builder to a standard of *strict liability*. This theory states that liability is imposed on the design/builder for providing a defective product that causes physical harm to a person. Unlike the other theories of liability, a contractual relationship does not have to exist for liability to be imposed.

5.4 Liability of Owner to Design/Builder

The potential liability of the owner is greatly limited in the design/build approach since the owner is not coordinating the work or resolving disputes between the contractor and the designer. However, some owners feel it is necessary to become heavily involved in the everyday decision-making in the design and construction phases. When this occurs, the owner may be liable to the design/builder in much the same way as he may be liable to a contractor in the traditional method. In *Armour & Company v. Scott*, the owner of a meat packaging plant became actively involved in the design process, increasing the size of the facility and modifying the electrical and mechanical systems in the building. The court determined the owner's intimate involvement with the project caused a de facto relationship. This interference by the owner was determined to be a breach of contract by the owner.

5.5 Defenses Unavailable in the Design/Build Approach

The nature of the design/build approach make certain liability defenses unusable in court of law. Since design/build does not have well-established common law, there are many defenses for liability that are being tried by the design/builder. Three defenses have been found not to be available: (1) the *betterment rule*, (2) responsibility for the accuracy of the designer's drawings and specifications, and (3) *impossibility*.

The *betterment rule* is best explained with an example from the traditional method. After the construction contract has been awarded, a nonintentional omission is found on the contract drawings by the contractor. The contractor will incur additional costs to complete the project than he originally bid. Under common law, the designer is generally not required to pay, as the client would have had to pay for the omitted items had they been included originally. To require the designer to pay would result in an unjust windfall for the client. In a design/build contract, this situation generally will not occur. The designer and constructor will have to work out the omission amongst themselves depending on their relationship. Recent common law has not allowed the *betterment rule* to be invoked in design/build contracts.

Design professionals and contractors also lose the protection afforded them by *implied warranties* from the client on the accuracy and completeness of the contract documents. Traditionally, the owner impliedly warrants the accuracy of the drawings, a benefit to both the contractor and the designer. The design/builder, however, is solely responsible for the accuracy and completeness of the documents. Depending on the type of design/build firm, there may be cause of legal action between the designer and the

constructor, but neither will have a cause of action against the client.

The *impossibility defense* is used when a specification in the contract is determined to be impossible to accomplish. Most clients initially give a performance specification that the design/builder is required to accomplish. The design/builder is then responsible to design and construct a facility that fulfills this requirement. In most contracts, the design/builder is required to guarantee this work. Common law has determined the contractor assumes the risk of impossibility when he agrees to the contract. In *Colorado-Ute Electric Association v. Envirotech Corp.*, Envirotech agreed to provide a hot-side electrostatic precipitator at a coal-fired electric power plant for Colorado-Ute. Envirotech agreed to meet certain state air quality standards, and specifically warranted that it would bear all costs for corrective measures and field tests until compliance was achieved. Envirotech failed to achieve these standards and sued Colorado-Ute, asserting they had failed to provide design temperatures and flue-gas volume required in the contract. The court ruled that Envirotech assumed the risk of impossibility since it had made an *express warranty* that it could provide the utility with a satisfactory precipitator.

CHAPTER VI

BONDING, INSURANCE, AND LICENSING FOR THE DESIGN/BUILDER

6.1 Chapter Overview

Like all construction projects, design/build projects require that the participants be insured, bonded, and properly licensed to complete the work. Insurance and bonds provide a measure of protection for the client, the design professional, and the contractor against certain types of losses that may occur on a construction project. Throughout history, the insurance and bonding industry has been structured to respond to the traditional method of construction contracting. The industry has been slow to change, and many firms hoping to break into the design/build market find it very difficult to obtain insurance and bonding. Depending on the organization of the design/build entity, designers and contractors are often placed in nontraditional roles, legally responsible for aspects of the project where they traditionally would have no control. For this reason, sureties have been extremely skeptical of design/build and have taken many precautions to protect themselves.

6.2 Bonds

A bond is simply a guarantee to the owner that if the contractor fails to perform in accordance with the contract documents, the surety will. Nearly all construction contracts require the contractor to purchase one or more types of bonds for each project. There are three types of bonds in the construction industry: (1) bid bonds, (2) performance bonds, and (3) labor and material bonds.

Bid bonds are a guarantee that the bidder (contractor) will enter into a contract

with the client in a specified period of time. If the contractor fails to enter into the contract, the surety will pay the owner the difference between the contractor's bid and the next lowest bidder. A performance bond is a guarantee that if the contractor does not complete the project in accordance with the contract documents, the surety will either finish the work itself or hire a client -approved contractor to complete the project. A labor and materials payment bond is a guarantee that subcontractors, laborers, and material suppliers will be paid the amount due them should the contractor fail in his obligation to pay them. A prudent client will require all three bonds be purchased by the contractor, generally in an amount equal to one hundred percent of the contract amount.

Bonding companies generally look at three items when determining whether to sell a bond to a prospective contractor or design/builder: (1) capital, (2) capacity, (3) and character. Character is relatively simple to determine. A sound reputation of ethical business practices is basically all that is required. But for the design/builder, capital and capacity are closely scrutinized. A design professional generally does not have the capital or capacity to obtain a performance bond. In type "A" or "C" organizations where the designer is either the principal or of equal weight, the designer must rely on the contractor to provide the bond. Many bonding companies are not willing to take such a large risk on the constructor acting in a subcontractor relationship, or if they do, charge a very high premium for the bond.

There are several other predicaments the surety is placed in a design/build contract. Often the contract is awarded without a complete set of contract drawings. The surety is unable to determine the exact cost of construction which may result in either too

little protection or too high a premium payment for the contractor. Another problem occurs in the type "B" organization where the contractor is the principal. Often the contractor will perform some of the design services normally done by the design professional. The surety must decide whether these services are construction services that the surety is obligated to guarantee. Yet another problem arises in the type "D" organization where there is one design/build firm. It is often very difficult to determine which portion of the firm's bid is for bondable construction work and what is for professional services insured under Professional Liability Insurance policies.

With these potential problems, it is no wonder sureties are leery about bonding design/build projects. However, with the recent success of design/build projects, the sureties are realizing design/build is here to stay. The new contractor or design professional just starting in the design/build field may encounter problems obtaining a bond, but proven design/build firms are finding it easier to obtain bonds.

6.3 INSURANCE FOR THE DESIGNER

Similar to bonding, insurance for the design/builder raises special issues. Like sureties, most insurance companies are accustomed to the traditional method of construction and have set up their policies accordingly. The insurance typically carried by design professionals does not cover construction errors. Conversely, most commercial general liability insurance carried by contractors does not contain provisions for design errors. So what is a design/builder to do? Before that question can be answer, it is necessary to look at the different types of insurance available to both the design professional and the contractor.

For the design professional, Professional Liability Insurance is their principal source of protection against liability. It was developed to cover claims arising from professional negligence or malpractice. Professional liability insurance is currently available on a claims-made basis, which covers claims made only during the policy period. If several claims are made during the period, they are paid on a first-come first-served basis up to the policy limit. Designers may purchase project insurance, which they often do on large projects. It is more expensive than the normal Professional Liability Insurance, but the designer is guaranteed that funds will be available as the policy is not affected by claims from other projects.

Although Professional Liability Insurance provides a great deal of protection for the design professional, there are a number of things it does not cover in a design/build situation. First and foremost, Professional Liability Insurance is only intended to cover the professional services of the designer. Contractors cannot obtain Professional Liability Insurance, nor can they be named as additional insureds in the design professional's policy. So in a Type "B" design/build organization where the contractor is responsible to the client for both the design and construction services, they will not be insured against errors and omissions by the design professional they hire. Similarly, in a Type "A" situation where the design professional is responsible for both the design and construction, they are not insured for the acts and omissions of the contractor. In both situations, the prime must rely on the other party for insurance coverage which is normally mandated in their contract with each other.

Professional Liability Insurance also does not protect the design professional from

breaches of express or implied warranties because they are obligations contractually assumed by the designer that they would not otherwise be responsible for under their standards of professional care. The policy does not provide for the imposition strict liability since it only protects the designer for problems arising from his or her negligent activities. These exclusions can be very costly to a design professional and must be considered before entering any of the four types of design/build arrangements.

6.4 INSURANCE FOR THE CONTRACTOR

There are many types of insurance that all contractors are required to have such as motor vehicle insurance and Worker's Compensation, but those are generally not affected in a design/build situation. The one type that is greatly affected, however, is Comprehensive General Liability Insurance. This policy encompasses many types of coverage typically including the following:

- Owners', Landlords', and Tenants' Liability Insurance
- Manufacturers' and Contractors' Liability Insurance
- Protective Liability Insurance
- Products and Completed Operations Insurance
- Explosion, Collapse, and Underground Coverage
- Broad Form Property Damage
- Personal Injury

A thorough description of each of these policies is not necessary, but they do encompass most of the problems that typically occur on a construction site. However, for the design/builder, there are some situations that may occur that are not covered.

In much the same way that Professional Liability Insurance does not cover construction errors or omissions, Comprehensive General Liability does not cover professional design services provided by the designer. In situations where it is difficult to determine whether there was a design error or a construction error, the standard Comprehensive General Liability further restricts the policy by the insurance industry's definition of an occurrence. An occurrence is "an accident, including continuous or repeated exposure to substantially the same general, harmful conditions." This raises the question of whether a design error is an accident, a question that is not supported either way by recent case law.

Unfortunately for the design/builder, there is no single policy existing in the current insurance market to cover both construction and professional liability losses on a construction project. The major problem is that most insurance companies perceive the design/build contracting method provides the client with a warranty for both the construction and design services. Existing policies are based on the more traditional contracting methods, and the insurance industry is presently looking into a single policy to cover the expanded warranty. The bottom line for the client and the design/builder is they must ensure there are no gaps in the constructor's Comprehensive General Liability and the designer's Professional Liability Insurance. The best way to do this is seek the advice of an insurance counselor and ensure that all requirements are clearly stated in the contract documents.

To improve the insurance and bonding industry as a whole, the U.S. may be smart to look at the construction practices of some European countries and Japan. In the U.S.,

many owners assume that contractors who prepare their own plans and specifications will skimp on quality to keep costs down. In Europe, they combat this problem by having insurance companies become members of the project team and serving as site Quality Assurance managers. This might increase the cost paid to the insurance company, but it eliminates the need for costly inspection services. Unlike U.S. sureties-- which only guarantee completion in the event of default--European sureties secure the quality of the constructed work. A procedure such as this might surely put some U.S. owners more at ease during a design/build project.

6.5 LICENSING REQUIREMENTS FOR THE DESIGN/BUILDER

In all the states, there are strict regulations regarding the professions of architect, engineer, and contractor for the benefit of the people. All states have determined, either by statute or case law, that contracts entered into by unlicensed persons performing professional skills requiring a license are unenforceable. This appears simple enough, but it raises some interesting questions in the design/build approach. Normally, a Type "A" arrangement with the designer as the primary has a design license but not a contractor's license. The reverse is true in a Type "B" arrangement, where the contractor as the primary has a license for the construction services but not for the design services. Similar to the insurance issue, most design/builders rely on each party to possess the proper licensing requirements.

Where the licensing issue has historically been a problem in design/build contracts is in the situation where the contract is abandoned after or during the design phase. A good example is *Food Management, Inc. v. Blue Ribbon Beef, Inc.*, where the

design/build contractor provided design service for a building that was not constructed. The owner determined the cost estimate for the construction was too high and did not want to go forward. The design/builder sued for \$32,000, the amount outstanding on the design services. The owner countersued for the amounts already paid. He based this on the grounds the contractor had defaulted the contract and the design was useless since the contractor was not a licensed designer. The court denied both claims.

This case seemingly favors the owner. If the owner is provided something he does not want to use, he can use licensing issues as a prime defense. Conversely, this places the Type "B" design/builder in a precarious position since there is no way he may obtain a design license as a contractor. To compound the problem, it is not possible to come up with a general rule-of-thumb for design/builders since the laws and regulations for licensing differ from state-to-state. The only way to avoid this situation for the design/builder is for the design/builder and client to ensure all licensing is in compliance with applicable state regulations, and that there is an appropriate clause in the contract protecting the design/builder from potential licensing problems.

CHAPTER VII

DESIGN/BUILD CONTRACTING IN THE FEDERAL SECTOR

Much of the discussion thus far on the legal aspects of the design/build contracting method have involved the private sector where a client desires to construct something for personal or business reasons. Design/build is active in the public sector, however, current federal law and many state and local regulations do not facilitate design/build contracting. Even so, the US Postal Service has been using the design/build approach since 1984 and has been the agency's method of choice since 1989. The Army Corps of Engineers has completed over 30 successful design/build projects since 1986. Other agencies moving to design/build include NASA, the Air Force, the Naval Facilities Engineering Command, the General Services Administration, and the Department of Energy.

7.1 The Brooks Act and the Federal Acquisition Regulations (FAR)

The primary limitation on design/build contracting in the federal sector arises from the procurement laws. The Brooks Act, 40 U.S.C. 541, governs federal policy for the procurement of Architect/Engineer services by mandating "to negotiate contracts for architectural and engineering services on the basis of demonstrated competence and qualification for the type of professional services required and at a fair and reasonable price." In addition, the Federal Acquisition Regulations (FAR) provide,

- (a) Contracting officers shall acquire construction using sealed bid procedures...
- (b) Contracting officers shall acquire architect-engineering services by negotiation, and select sources in accordance with applicable law, subpart 36.6, and agency regulations.

The FAR further limits design/build by reinforcing the separation of design work from construction by stating:

If a contractor prepares and furnishes complete specifications covering non-developmental items, to be used in a competitive acquisition, that contractor shall not be allowed to furnish these items, either as a prime contractor or as a subcontractor, for a reasonable period of time, including, at least, the duration of the initial production contract.

With these regulations in place, it appears virtually impossible to allow a design/build project in the federal sector. Obviously, these regulations were geared toward the traditional contracting methods where a contractor that aided in the design process would indeed have a significant advantage over other bidders in a competitive bid situation. In contrast, design/build entities are all equal because they can evaluate the risks and benefits of their own design proposals. Despite the regulations against it, design/build contracting in the federal sector has been authorized by Title 10 U.S.C., Section 2862 to a limited extent.

The main concern for any government agency is that all procurement of services be done on a fair and equitable basis and to avoid even the perception of showing favoritism. Most of the federal agencies have been authorized by congress to use the design/build method for various reasons. The military has been authorized under Title 10 U.S.C., Section 2862, where congress allowed the secretary of defense to enter into no more than three design/build contracts per fiscal year for design/build military construction through October 1, 1991. Since then, congress has authorized the use of the design/build process for military construction projects with only the permission of the Secretary of the military department concerned required. However, Title 10 requires the service to conduct a thorough selection process to ensure a fair contract is entered, with the best interests of the public in mind.

7.2 Naval Facilities Engineering Command Selection Process

The most critical and time-consuming process for the federal agency procuring design/build services is the actual selection of the design/builder. The Southern Division, Naval Facilities Engineering Command (NAVFAC), based in Charleston, S.C., recently completed a *Design/Build Guide* on 16 January 1996 as guidance for all Naval Facilities in the Southeast region, including all bases in Florida. This document explains all steps of the design/build procedure, with the largest section being the proposal evaluations. The document covers both types of design/build approved by NAVFAC. The first is the Newport Design/Build method, used on non-sophisticated general use buildings where the government provides the bidders with 40%-90% of the contract drawings. This procedure is very similar to the traditional method and awards the contract to the low bidder. The second procedure is the Design/Build Request for Proposal where the government provides the functional requirements, design and engineering criteria, technical performance specifications, and proposal evaluation factors. This type of contract is awarded based on a combination of technical merit and price. It is in this method where the government must use caution in awarding the contract to the most qualified bidder.

To evaluate all proposals fairly, all bidders submit their technical proposals and price proposals in separately sealed packages. A Price Evaluation Board, usually consisting of a Contract Specialist and possibly a cost engineer, conducts a cost and price analysis of the bid and verifies each bidder has complied with the general requirements of the RFP. A separate Technical Evaluation Board (TEB) is established to review each bidders' technical proposal. The board should be composed of architects and engineers

representing each discipline, as well as a construction representative. The TEB is preferably composed of in-house personnel, although private A-Es may be hired. The criteria for technical evaluation is divided into three parts, (1) building related features, (2) offeror's qualifications, and (3) offeror's management plan.

Technical Evaluation Criteria		
Building Related Features	Offeror's Qualifications	Management Plan
Site Design & Architecture	Organization Chart	Quality Control Plan
Site Engineering	Project Examples	Design and Construction Schedule
Structural Design	Design/Build Experience	Mob/Demob Plans
Electrical Design		Logistics Plan
Mechanical Design		Funds Control Plan
Life-Cycle Cost		Contract Close-out Plan

Table 7.1

The building related features are fairly obvious, although this is the most time-consuming portion of the evaluation. Starting with the site design, the TEB rates each proposal based on several features, including orientation of the building with regard to the environment, vehicular and pedestrian access, parking, and landscaping. They next ensure the site engineering is suitable, namely the grading and drainage, sanitary sewer, and water and electrical supply. The structural aspects are carefully reviewed, as well as the interior and exterior design to ensure it matches the master plan of the base. The electrical and mechanical systems are also carefully reviewed to ensure energy efficient products are being implemented. A final criteria which is not required but is becoming more and more popular is a life-cycle cost analysis. This analysis generally consists of a

calculated energy cost, as well as a repair, maintenance, and replacement cost. The life-cycle cost is becoming increasingly critical, particularly as budgets continue to shrink as well as new laws regulating energy usage at federal facilities.

The second evaluation criteria is the offeror's qualifications as a design/builder. In this portion, the TEB reviews the design/build entity's organization chart and looks at each of the key personnel for the necessary experience and credentials, concentrating on the personnel dedicated to this particular project. They next review the project examples submitted by the bidder and are required to contact previous clients and assess their degree of satisfaction. Most importantly for Type C organizations (joint ventures), the TEB evaluates the project examples to see if the firms involved have worked together successfully.

The third criteria is based on the offeror's Management Plan. The Management Plan consists of the following:

- Quality Control Plan. Offeror must clearly identify the personnel responsible for quality control, as well as provide information on testing and reporting procedures, and disputes resolution procedures.
- Design and Construction Schedule. Offeror must submit a graphic schedule showing both phases of the project and support it with rationale on how the proposed schedule will be achieved.
- Mobilization and Demobilization Plans. These plans should indicate what facilities, equipment, and personnel the offeror will be bringing to the site and how they will be removed. A site organization plan is also required, indicating

where these facilities will be located and identifying any base activities that may be disrupted during construction.

- Logistics Plan. This plan indicates how the material procurement will be performed and should include a plan to expedite long-lead time items. The offeror must also indicate what subcontractors they will use and how they will be monitored.
- Funds Control Plan. Evaluate the offeror's financial situation and their ability to comply with the prompt payment policy to subcontractors and suppliers.
- Contract Close-out Plan. The offeror must have a plan for project turnover including the transfer of record drawings and operation and maintenance manuals, a plan to complete punch list items, and how any warranty work will be completed.

Once the price and technical evaluations are completed, the Source Selection Board (SSB) must make a determination whether to award the contract to the most qualified without discussions or to establish a competitive range and discuss the technical aspects with the bidders falling within this range. In the essence of fairness, the SSB normally chooses to discuss technical aspects with a selected few bidders who are considered to be the best qualified. After discussions, the selected bidders are given time to revise their technical proposals and price proposals. The bidders then submit a "best and final offer." From these offers, the TEB and PEB evaluate the proposals, and the SSB makes the final determination based on the technical and price proposals.

Other government agencies, including the US Postal Service and the Corps of

Engineers have a similar process they select a design/bidder. It is obviously a more involved process than awarding a contract to the low bidder based on price alone. But many federal agencies are increasingly willing to take the time to make the proper selection up front to avoid disputes at the end of the project. Unfortunately, problems exist in this selection process, and remains one of the weakest aspects of design/build in the public sector.

7.3 Protests of Public Design/Build Awards

A 1990 court case, *Shirley Construction Corp. v. United States*, involved a Corps of Engineers design/build contract for the design and construction of a commissary at Fort Eustis, Virginia. Shirley was the low bidder at \$6,645,202, and protested the \$8,984,000 award to Donohue Construction. Shirley contended that since its price was 35 percent lower than the awardee's and their technical score was only 17 percent lower than the awardee's, their proposal was more advantageous to the government. They contend the Corps did not make a reasonable "trade-off" between the technical factors and price. They cited two other comparable projects with similar selection criteria where the Corps awarded the contract to the lower bidder despite the technical advantages offered by other bidders. The court ruled in favor of the government, stating each procurement is a separate transaction and the selection process was consistent with evaluation criteria in the Request for Proposal. The case demonstrates one of the pitfalls for the design/builder in that it is difficult to determine whether to emphasize the technical proposal or to keep costs down and be the lowest bidder. It also reinforces the fact that this selection process can be very subjective and needs to there needs to be a degree of oversight to ensure these

contracts are awarded in the best interest of the public.

7.4 Public Design/Build in the State of Florida

Many state and local governments around the country have patterned their regulations around Florida statute as a result of *City of Lynn Haven v. Bay County Council of Registered Architects, Inc.*, decided in 1988. In this case the court enjoined the design/build construction solicitation, citing the statutorily prescribed procedure for selecting design professionals--based on qualifications and experience and not low bidder--had not been followed by the city. As a result, in 1990 Florida legislature enacted several statutes to validate design/build construction for public agencies.

Florida Statute § 287.055 is referred to as the Consultants Competitive Negotiation Act. This statute defines a design/build firm, design/build contract, procedures for public announcement, qualifications of design/build firms, and competitive selection and negotiation of contracts. It also requires that a design/build firm must be certified to engage in contracting "through" a certified contractor, and also certified under existing statutes to practice engineering and architecture services. It does not, however, state whether a licensed contractor who hires a licensed designer as a subcontractor is considered a "design/build firm."

Florida Statute § 337.11 requires the "head of the department" to make a determination that a design/build contract is in the best interests of the public. It further requires each department to adopt regulations governing the following: prequalification of applicants; announcements design/build projects; criteria for selection; criteria for RFP's; evaluation of proposals; and awards.

Florida Statute § 471.003 supports the Type B organization, by exempting the requirement of a registered general contractor to register as an engineer when negotiating or performing services under a design/build contract as long as the architecture and engineering services are rendered by a licensed engineer. Florida Statute § 489.103 supports the Type "A" arrangement by exempting engineers and architects from registering as a contractor to engage in design/build contracts, provided the construction services are performed by a registered engineer.

CHAPTER VIII

CONCLUSION

The design/build project delivery method has generated an enormous amount of interest in the past ten years. Although in 1995, less than 15% of all new construction contracts used the design/build approach, the U.S. Department of Commerce predicts design/build will account for half of all non-residential construction by 2001. This predicted increase has many people in the construction industry optimistic, while an equal number of people remain skeptical.

Design/build has grown in popularity primarily due to the inherent deficiencies of the traditional method. Since there is no connection between the designer and contractor in the traditional method, the owner will get the lowest bidder and a check and balance between the two entities. But this perceived advantage of the traditional method can also be its biggest problem with the antagonistic relationship that develops. For this reason, many owners opted for the single source of responsibility concept that design/build offers. They like the many benefits of combining the experience and knowledge of the designer and contractor to deliver a final end product. But as the preceding chapters have indicated, there remains many issues that need to be improved before design/build is widely practiced in the industry. Owners need to be more careful in considering whether the design/build approach is suitable for their particular project. The insurance companies and sureties need to look at their policies to improve current bonding and insurance procedures. The federal and individual state governments need to update legislation to enhance the design/build method, while still retaining the best interests of the public.

These changes will make it easier for owners and design/builders to utilize this project delivery option, however, to make design/build the procedure of the future, more drastic changes may be necessary. In the United Kingdom, where design/build currently accounts for well over 25% of the construction industry, the owner and design/builder are jointly involved in nearly all aspects of the work, particularly in the design stage. They not only look at what the end result will be, but at how they will get there. This way of thinking has brought about new and innovative construction methods that benefit both the design/builder and the owner.

A similar procedure was introduced in the U.S. by the Army Corps of Engineers in 1989. The Corps labeled this procedure as *partnering*. The Construction Industry Institute's *Partnering Task Force Report* of August, 1991, defined partnering as "a long term commitment between two or more organizations for the purpose of achieving specific business objectives by maximizing the effectiveness of each participant's resources." A study by the University of Illinois of recently completed military construction projects indicates that partnered projects experience a 10% decrease in schedule growth during the course of a project with fewer modifications than traditional projects. Despite this study, partnering in the U.S. is still in the early stages, and at present, is not widely used throughout the industry. Many government agencies have just started experimenting with partnering, and the Corps of Engineers recently adopted it as standard practice on all new projects.

The future of design/build will depend largely on how quickly partnering is received into the construction industry in the private and public sectors. Design/build

contracting alone provides significant benefits to both the owner and design/builder. The owner benefits from a more streamlined project delivery method with a design/build entity committed and contractually bound to provide a fully functional facility that fulfills the project objectives and owner expectations. The design/builder benefits from greater input in all phases of the design and construction, giving them better opportunities to use their expertise and to generate greater profits. Combining these individual benefits with the concept of partnering can only facilitate each party in reaching their respective goals and ultimately result in a "win-win" situation. Thus, as more owners, contractors, design professionals, and design/build firms learn more of its many benefits, design/build contracting is on the verge of becoming the premier contracting method in the United States in the twenty-first century.

BIBLIOGRAPHY

- Barrie, Donald, and Paulson, Boyd. Professional Construction Management: Including CM, Design-Construct, and General Contracting. New York: McGraw-Hill, Inc., 1992.
- Booth, William. Design/Build Marketing. New York: Van Nostrand Reinhold, 1992.
- Branca, Anthony. Cost Effective Design/Build Construction. Kingston, MA: R. S. Means Company, 1987.
- Cushman, Robert F. and Sperling-Taub, Kathy. Design-Build Contracting Handbook. New York: Wiley, 1992.
- Gurry, William. "Documenting Design-Build." Civil Engineering. September 1995: 47-49.
- McManamy, Rob. "Design-Builders take a breather." Engineering New-Record. 23 May 1994: 77.
- Miles, Robert. "Twenty-First Century Partnering and the Role of ADR." Journal of Management in Engineering. May/June 1996: 45-55.
- Ndekugri, Issaka, and Turner, Adrian. "Building Procurement by Design and Build Approach." Journal of Construction Engineering and Management.
- Nicholson, Joseph. "Rethinking The Competitive Bid." Civil Engineering. January 1991: 66-68.
- Pocock, Jim, and Liu, Laing. "Alternative Approaches to Projects: Better or Worse?" The Military Engineer. June-July 1996: 57-59.
- Potter, Kevin, and Savido, Victor. "Design/Build Prequalification System." Journal of Management in Engineering. March/April 1994: 48-56.
- Robertson, K. M. et.al. Design Build Guide: Southern Division, Naval Facilities Engineering Command. January 1996.
- Rosenbaum, David. "Can't we all just get along." Engineering News-Record. 16 October 1995.
- Schriener, Judy. "Industry embraces design-build." Engineering News-Record. 22 May 1995: 74.

Setzer, Steven. "One-stop shopping has designers nervous." Engineering News-Record. 12 August 1991: 9-10.

Tulacz, Gary. "The Top 100 Construction Management Firms." Engineering News-Record. 12 June 1995: 69-70.

Twomey, Timothy. Understanding the Legal Aspects of Design/Build. Kingston, MA: R. S. Means Company, 1989.

THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A191

**Standard Form of Agreement Between
Owner and Design/Builder**
1985 EDITION

*THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES;
CONSULTATION WITH AN ATTORNEY IS ENCOURAGED.*

This Document comprises two separate Agreements: Part 1 Agreement—Preliminary Design and Budgeting and Part 2 Agreement—Final Design and Construction. Hereinafter, the Part 1 Agreement is referred to as Part 1 and the Part 2 Agreement is referred to as Part 2. Before executing Part 1, the parties should reach substantial agreement on Part 2.

PART 1 AGREEMENT—PRELIMINARY DESIGN AND BUDGETING

AGREEMENT

made as of the _____ day of _____ in the year of Nineteen
Hundred and _____

BETWEEN the Owner:

(Name and address)

and the Design/Builder:

(Name and address)

For the following Project:

(Include Project name, location and detailed description of scope.)

The architectural services described in Article 2 will be provided by the following person or entity who is lawfully licensed to practice architecture:

(Name and address)

The Owner and the Design/Builder agree as set forth below.

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violates the copyright laws of the United States and will be subject to legal prosecution.

Terms and Conditions—Part 1 Agreement

ARTICLE 1

GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 The Project is the total design and construction for which the Design/Builder is responsible under Part 1, including all professional design services and all labor, materials and equipment used or incorporated in such design and construction.

1.1.2 The Work comprises the completed construction designed under the Project and includes labor necessary to produce such construction, and materials and equipment incorporated or to be incorporated in such construction.

1.2 EXECUTION, CORRELATION AND INTENT

1.2.1 This Part 1 shall be signed in not less than duplicate by the Owner and Design/Builder.

1.2.2 Nothing contained in the Design/Builder Contract Documents shall create a professional obligation or contractual relationship between the Owner and any third party.

1.3 OWNERSHIP AND USE OF DOCUMENTS

1.3.1 The drawings, specifications and other documents furnished by the Design/Builder are instruments of service and shall not become the property of the Owner whether or not the Project for which they are made is commenced. Drawings, specifications and other documents furnished by the Design/Builder shall not be used by the Owner on other projects, for additions to this Project or, unless the Design/Builder is in default under Part 1, for completion of this Project by others, except by written agreement relating to use, liability and compensation.

1.3.2 Submission or distribution of documents to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Design/Builder's or the Architect's common law copyrights or other reserved rights. The Owner shall own neither the documents nor the copyrights.

ARTICLE 2

DESIGN/BUILDER

2.1 SERVICES AND RESPONSIBILITIES

2.1.1 Design services shall be performed by qualified architects, engineers and other professionals selected and paid by the Design/Builder. The professional obligations of such persons shall be undertaken and performed in the interest of the Design/Builder. Construction services shall be performed by qualified construction contractors and suppliers, selected and paid by the Design/Builder and acting in the interest of the Design/Builder. Nothing contained in Part 1 shall create any professional obligation or contractual relationship between such persons and the Owner.

2.1.2 The Design/Builder shall be responsible to the Owner for acts and omissions of the Design/Builder's employees and parties in privity of contract with the Design/

Builder to perform a portion of the Work, including their agents and employees.

2.2 BASIC SERVICES

2.2.1 The Design/Builder's Basic Services are as described below and in Article 10.

2.2.2 The Design/Builder shall review the Owner's program to ascertain requirements of the Project and shall review such requirements with the Owner.

2.2.3 The Design/Builder shall provide, after consultation with the Owner, a preliminary evaluation of the program and Project budget, each in terms of the other.

2.2.4 The Design/Builder shall review with the Owner alternative approaches to design and construction of the Project.

2.2.5 The Design/Builder shall submit to the Owner a Proposal including the completed Preliminary Design Documents, a statement of the proposed contract sum, a proposed schedule for completion of the Work under Part 2 and all other information necessary to complete Part 2. Preliminary Design Documents shall consist of preliminary design drawings, outline specifications and other documents to fix and describe the size, quality and character of the entire Project, its architectural, structural, mechanical and electrical systems, and the materials and such other elements of the Project as may be appropriate. If the Proposal is accepted by the Owner, they shall then execute Part 2. Modifications to the Proposal before execution of Part 2 shall be recorded in writing as an addendum and be identified in the Contract Documents of Part 2.

2.3 ADDITIONAL SERVICES

All other services requested by the Owner and mutually agreed to in writing by the Owner and Design/Builder in Part 1, including, among others, changes in Project scope and program, shall constitute Additional Services and shall be paid for by the Owner as provided in Part 1.

ARTICLE 3

OWNER

3.1 The Owner shall provide information regarding requirements for the Project, including but not limited to the Owner's design objectives, constraints and criteria.

3.2 If the Owner provides a budget for the Project, it shall explicitly include as separate line items contingencies for changes in the design and construction, and other costs which are the responsibility of the Owner. No budget shall constitute a fixed limit of construction cost unless such limit has been agreed to in writing by the Design/Builder.

3.3 The Owner shall designate a representative authorized to act on the Owner's behalf with respect to the Project. The Owner or such authorized representative shall examine the documents submitted by the Design/Builder and shall promptly render decisions pertaining thereto to avoid delay in the orderly progress of design and construction.

3.4 The Owner shall cooperate with the Design/Builder in identifying required permits, licenses and inspections, and

shall take appropriate action with reasonable promptness.

3.5 Prior to commencement of Basic Services, the Owner shall furnish a legal description and a certified land survey of the site, giving, as applicable, grades and lines of streets, alleys, pavements and adjoining property; rights-of-way, restrictions, easements, encroachments, zoning, deed restrictions, elevations and contours of the site; locations, dimensions and complete data pertaining to existing buildings, other improvements and trees; and full information concerning available services and utility lines, both public and private, above and below grade, including inverts and depths.

3.6 The Owner shall furnish services of geotechnical engineers and other consultants when such services are deemed necessary by the Design/Builder. Geotechnical engineers or other consultants shall be selected by mutual agreement. Such services shall include, as required, applicable test borings, test pits, soil bearing values, percolation tests, air and water pollution tests, and other necessary operations for determining subsoil, air and water conditions, with reports and appropriate professional recommendations.

3.7 The services, information, surveys and reports required by Paragraphs 3.5 and 3.6 shall be furnished at the Owner's expense, and the Design/Builder shall be entitled to rely upon their accuracy and completeness.

3.8 If the Owner observes or otherwise becomes aware of any fault or defect in the Work, the Owner shall give prompt written notice thereof to the Design/Builder.

3.9 The Owner shall furnish required information and services and shall render decisions with reasonable promptness to avoid delay in the orderly progress of the Design/Builder's services.

3.10 The Owner shall communicate with contractors only through the Design/Builder.

ARTICLE 4

TIME

4.1 The Design/Builder shall provide the Basic and Additional Services as expeditiously as is consistent with reasonable skill and care and shall complete the services in the time provided in Article 10.

ARTICLE 5

PAYMENTS

5.1 The initial payment provided in Article 9 shall be made upon execution of this Part 1 and credited to the Owner's account as provided in Subparagraph 9.1.2.

5.2 Subsequent payments for Part 1 Basic Services, Additional Services and Reimbursable Expenses shall be made monthly on the basis set forth in Article 9.

5.3 Within ten days of the Owner's receipt of a properly submitted Application for Payment, the Owner shall make payment to the Design/Builder.

5.4 Payments due the Design/Builder under Part 1 which are not paid when due shall bear interest from the date due at the rate specified in Paragraph 9.5, or in the absence of a specified rate, at the legal rate prevailing where the principal office of the Design/Builder is located.

ARTICLE 6

ARBITRATION

6.1 Claims, disputes and other matters in question between the parties to Part 1 arising out of or relating to Part 1 shall be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then in effect unless the parties agree otherwise. No arbitration arising out of or relating to Part 1 shall include, by consolidation or joinder or in any other manner, an additional person not a party to Part 1 except by written consent containing specific reference to Part 1 and signed by the Owner, Design/Builder and any other person sought to be joined. Consent to arbitration involving an additional person or persons shall not constitute consent to arbitration of a dispute not described therein or with a person not named therein. This provision shall be specifically enforceable in any court of competent jurisdiction.

6.2 Notice of demand for arbitration shall be filed in writing with the other party to Part 1 and with the American Arbitration Association. The demand shall be made within a reasonable time after the claim, dispute or other matter in question has arisen. In no event shall the demand for arbitration be made after the date when the applicable statute of limitations would bar institution of a legal or equitable proceeding based on such claim, dispute or other matter in question.

6.3 The award rendered by arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction.

6.4 Unless otherwise agreed in writing, the Design/Builder shall carry on the services and maintain progress during any arbitration proceedings, and the Owner shall continue to make payments to the Design/Builder in accordance with Part 1.

6.5 This Article 6 shall survive completion or termination of Part 1.

ARTICLE 7

MISCELLANEOUS PROVISIONS

7.1 This Part 1 shall be governed by the law of the place where the principal office of the Design/Builder is located.

7.2 The table of contents and the headings of articles and paragraphs are for convenience only and shall not modify rights and obligations created by Part 1.

7.3 In case a provision of Part 1 is held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not be affected.

7.4 SUCCESSORS AND ASSIGNS

7.4.1 This Part 1 shall be binding on successors, assigns and legal representatives of and persons in privity of contract with the Owner or Design/Builder. Neither party shall assign, sublet or transfer an interest in Part 1 without written consent of the other.

7.4.2 This Paragraph 7.4 shall survive completion or termination of Part 1.

7.5 EXTENT OF AGREEMENT

7.5.1 Part 1 represents the entire agreement for Preliminary Design and Budgeting and supersedes all prior negotiations, representations or agreements. Part 1 may be

amended only by written instrument signed by both Owner and Design/Builder.

7.6 In case of termination of the Architect, the Design/Builder shall provide the services of another lawfully licensed person or entity against whom the Owner makes no reasonable objection.

ARTICLE 8

TERMINATION OF THE AGREEMENT

8.1 Part 1 may be terminated by either party upon seven days' written notice should the other party fail substantially

to perform in accordance with its terms through no fault of the party initiating the termination.

8.2 Part 1 may be terminated by the Owner upon at least seven days' written notice to the Design/Builder in the event that the Project is permanently abandoned.

8.3 In the event of termination not the fault of the Design/Builder, the Design/Builder shall be compensated for services performed to termination date, together with Reimbursable Expenses then due and Termination Expenses. Termination Expenses are expenses directly attributable to termination, including a reasonable amount for overhead and profit, for which the Design/Builder is not otherwise compensated under Part 1.

ARTICLE 9
BASIS OF COMPENSATION

The Owner shall compensate the Design/Builder in accordance with Article 5, Payments, and the other provisions of Part 1 as described below.

9.1 COMPENSATION FOR BASIC SERVICES

9.1.1 FOR BASIC SERVICES, compensation shall be as follows:

9.1.2 AN INITIAL PAYMENT of _____ dollars (\$) shall be made upon execution of Part 1 and credited to the Owner's account as follows:

9.1.3 SUBSEQUENT PAYMENTS shall be as follows:

9.2 COMPENSATION FOR ADDITIONAL SERVICES

9.2.1 FOR ADDITIONAL SERVICES, compensation shall be as follows:

9.3 REIMBURSABLE EXPENSES

9.3.1 Reimbursable Expenses are in addition to Compensation for Basic and Additional Services and include actual expenditures made by the Design/Builder and the Design/Builder's employees and contractors in the interest of the Project for the expenses listed as follows:

9.3.2 FOR REIMBURSABLE EXPENSES, compensation shall be a multiple of () times the amounts expended.

9.4 DIRECT PERSONNEL EXPENSE is defined as the direct salaries of personnel engaged on the Project, and the portion of the cost of their mandatory and customary contributions and benefits related thereto, such as employment taxes and other statutory employee benefits, insurance, sick leave, holidays, vacations, pensions and similar contributions and benefits.

9.5 INTEREST PAYMENTS

9.5.1 The rate of interest for past due payments shall be as follows:

(Usury laws and requirements under the Federal Truth in Lending Act, similar state and local consumer credit laws and other regulations at the Owner's and Design/Builder's principal places of business, at the location of the Project and elsewhere may affect the validity of this provision. Specific legal advice should be obtained with respect to deletion, modification or other requirements, such as written disclosures or waivers.)

9.6 IF THE SCOPE of the Project is changed materially, the amount of compensation shall be equitably adjusted.

9.7 The compensation set forth herein shall be equitably adjusted if through no fault of the Design/Builder the services have not been completed within () months of the date of Part 1.

ARTICLE 10 **OTHER PROVISIONS**

- 10.1** The Basic Services to be performed shall be commenced on adjustments and to delays not caused by the Design/Builder, shall be completed in _____ and, subject to authorized _____ calendar days.
- 10.2** The Basic Services beyond those described in Article 2 are:

This Part 1 entered into as of the day and year first written above.

OWNER

DESIGN/BUILDER

BY

BY

THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A191

**Standard Form of Agreement Between
Owner and Design/Builder**
1985 EDITION

THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES;
CONSULTATION WITH AN ATTORNEY IS ENCOURAGED.

This Document comprises two separate Agreements: Part 1 Agreement—Preliminary Design and Budgeting and Part 2 Agreement—Final Design and Construction. Hereinafter, the Part 1 Agreement is referred to as Part 1 and the Part 2 Agreement is referred to as Part 2.

PART 2 AGREEMENT—FINAL DESIGN AND CONSTRUCTION

AGREEMENT

made as of the _____ day of _____ in the year of Nineteen
Hundred and _____

BETWEEN the Owner:
(Name and address)

and the Design/Builder:
(Name and address)

For the following Project:
(Include Project name, location and detailed description of scope.)

The architectural services described in Article 2 will be provided by the following person or
entity who is lawfully licensed to practice architecture
(Name and address)

The Owner and the Design/Builder agree as set forth below.

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A191-1985
PART 2-PAGE 1

Terms and Conditions—Part 2 Agreement

ARTICLE 1

GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 The Contract Documents consist of the Design/Builder's Proposal identified in Article 14, this Part 2, the Construction Documents approved by the Owner in accordance with Subparagraph 2.2.2 below and Modifications issued after execution of Part 2. A Modification is a Change Order or a written amendment to Part 2 signed by both parties. These form the Contract, and are as fully a part of the Contract as if attached to this Part 2 or repeated herein.

1.1.2 The Project is the total design and construction for which the Design/Builder is responsible under Part 2, including all professional design services and all labor, materials and equipment used or incorporated in such design and construction.

1.1.3 The Work comprises the completed construction designed under the Project and includes labor necessary to produce such construction, and materials and equipment incorporated or to be incorporated in such construction.

1.2 EXECUTION, CORRELATION AND INTENT

1.2.1 This Part 2 shall be signed in not less than duplicate by the Owner and Design/Builder.

1.2.2 It is the intent of the Owner and Design/Builder that the Contract Documents include all items necessary for proper execution and completion of the Work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. Work not covered in the Contract Documents will not be required unless it is consistent with and is reasonably inferable from the Contract Documents as being necessary to produce the intended results. Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

1.3 OWNERSHIP AND USE OF DOCUMENTS

1.3.1 The drawings, specifications and other documents furnished by the Design/Builder are instruments of service and shall not become the property of the Owner whether or not the Project for which they are made is commenced. Drawings, specifications and other documents furnished by the Design/Builder shall not be used by the Owner on other projects, for additions to this Project or, unless the Design/Builder is in default under Part 2, for completion of this Project by others, except by written agreement relating to use, liability and compensation.

1.3.2 Submission or distribution of documents to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Design/Builder's or the Architect's common law copyrights or other reserved rights. The Owner shall own neither the documents nor the copyrights.

ARTICLE 2

DESIGN/BUILDER

2.1 SERVICES AND RESPONSIBILITIES

2.1.1 Design services shall be performed by qualified architects, engineers and other professionals selected and paid by the Design/Builder. The professional obligations of such persons shall be undertaken and performed in the interest of the Design/Builder. Construction services shall be performed by qualified construction contractors and suppliers, selected and paid by the Design/Builder and acting in the interest of the Design/Builder. Nothing contained in Part 2 shall create any professional obligation or contractual relationship between such persons and the Owner.

2.2 BASIC SERVICES

2.2.1 The Design/Builder's Basic Services are described below and in Article 14.

2.2.2 Based on the Design/Builder's Proposal, the Design/Builder shall submit Construction Documents for review and approval by the Owner. Construction Documents shall include technical drawings, schedules, diagrams and specifications, setting forth in detail the requirements for construction of the Work, and shall:

- .1 develop the intent of the Design/Builder's Proposal in greater detail;
- .2 provide information customarily necessary for the use of those in the building trades; and
- .3 include documents customarily required for regulatory agency approvals.

2.2.3 The Design/Builder shall assist the Owner in filing documents required to obtain necessary approvals of governmental authorities having jurisdiction over the Project.

2.2.4 Unless otherwise provided in the Contract Documents, the Design/Builder shall provide or cause to be provided and shall pay for design services, labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

2.2.5 The Design/Builder shall be responsible for and shall coordinate all construction means, methods, techniques, sequences and procedures.

2.2.6 The Design/Builder shall keep the Owner informed of the progress and quality of the Work.

2.2.7 If requested in writing by the Owner, the Design/Builder, with reasonable promptness and in accordance with time limits agreed upon, shall interpret the requirements of the Contract Documents and initially shall decide, subject to demand for arbitration, claims, disputes and other matters in question relating to performance thereunder by both Owner and Design/Builder. Such interpretations and decisions shall be in writing, shall not be presumed to be correct and shall be given such weight as the arbitrator(s) or the court shall determine.

2.2.8 The Design/Builder shall correct Work which does not conform to the Construction Documents.

2.2.9 The Design/Builder warrants to the Owner that materials and equipment incorporated in the Work will be new unless otherwise specified, and that the Work will be of good quality, free from faults and defects, and in conformance with the Contract Documents. Work not conforming to these requirements shall be corrected in accordance with Article 9.

2.2.10 The Design/Builder shall pay all sales, consumer, use and similar taxes which were in effect at the time the Design/Builder's Proposal was first submitted to the Owner, and shall secure and pay for building and other permits and governmental fees, licenses and inspections necessary for the proper execution and completion of the Work which are either customarily secured after execution of Part 2 or are legally required at the time the Design/Builder's Proposal was first submitted to the Owner.

2.2.11 The Design/Builder shall give notices and comply with laws, ordinances, rules, regulations and lawful orders of public authorities relating to the Project.

2.2.12 The Design/Builder shall pay royalties and license fees. The Design/Builder shall defend suits or claims for infringement of patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for such loss when a particular design, process or product of a particular manufacturer is required by the Owner. However, if the Design/Builder has reason to believe the use of a required design, process or product is an infringement of a patent, the Design/Builder shall be responsible for such loss unless such information is promptly given to the Owner.

2.2.13 The Design/Builder shall be responsible to the Owner for acts and omissions of the Design/Builder's employees and parties in privity of contract with the Design/Builder to perform a portion of the Work, including their agents and employees.

2.2.14 The Design/Builder shall keep the premises free from accumulation of waste materials or rubbish caused by the Design/Builder's operations. At the completion of the Work, the Design/Builder shall remove from and about the Project the Design/Builder's tools, construction equipment, machinery, surplus materials, waste materials and rubbish.

2.2.15 The Design/Builder shall prepare Change Orders for the Owner's approval and execution in accordance with Part 2 and shall have authority to make minor changes in the design and construction consistent with the intent of Part 2 not involving an adjustment in the contract sum or an extension of the contract time. The Design/Builder shall promptly inform the Owner, in writing, of minor changes in the design and construction.

2.2.16 The Design/Builder shall notify the Owner when the Work or an agreed upon portion thereof is substantially completed by issuing a Certificate of Substantial Completion which shall establish the Date of Substantial Completion, shall state the responsibility of each party for security, maintenance, heat, utilities, damage to the Work and insurance, shall include a list of items to be completed or corrected and shall fix the time within which the Design/Builder shall complete items listed therein. Disputes between the Owner and Design/Builder regarding the Certificate of Substantial Completion shall be resolved by arbitration.

2.2.17 The Design/Builder shall maintain in good order at the site one record copy of the drawings, specifications, product data, samples, shop drawings, Change Orders and other Modifications, marked currently to record changes made during construction. These shall be delivered to the Owner upon completion of the design and construction and prior to final payment.

ARTICLE 3

OWNER

3.1 The Owner shall designate a representative authorized to act on the Owner's behalf with respect to the Project. The Owner or such authorized representative shall examine documents submitted by the Design/Builder and shall promptly render decisions pertaining thereto to avoid delay in the orderly progress of the Work.

3.2 The Owner may appoint an on-site project representative to observe the Work and to have such other responsibilities as the Owner and Design/Builder agree in writing prior to execution of Part 2.

3.3 The Owner shall cooperate with the Design/Builder in securing building and other permits, licenses and inspections, and shall pay the fees for such permits, licenses and inspections if the cost of such fees is not identified as being included in the Design/Builder's Proposal.

3.4 The Owner shall furnish services by land surveyors, geotechnical engineers and other consultants for subsoil, air and water conditions, in addition to those provided under Part 1 when such services are deemed necessary by the Design/Builder to carry out properly the design services under this Part 2.

3.5 The Owner shall furnish structural, mechanical, chemical, geotechnical and other laboratory or on-site tests, inspections and reports as required by law or the Contract Documents.

3.6 The services, information, surveys and reports required by Paragraphs 3.4 and 3.5 shall be furnished at the Owner's expense, and the Design/Builder shall be entitled to rely upon their accuracy and completeness.

3.7 If the Owner observes or otherwise becomes aware of a fault or defect in the Work or nonconformity with the Design or Construction Documents, the Owner shall give prompt written notice thereof to the Design/Builder.

3.8 The Owner shall furnish required information and services and shall promptly render decisions pertaining thereto to avoid delay in the orderly progress of the design and construction.

3.9 The Owner shall, at the request of the Design/Builder and upon execution of Part 2, provide a certified or notarized statement of funds available for the Project and their source.

3.10 The Owner shall communicate with contractors only through the Design/Builder.

ARTICLE 4

TIME

4.1 The Design/Builder shall provide services as expeditiously as is consistent with reasonable skill and care and the orderly progress of design and construction.

4.2 Time limits stated in the Contract Documents are of the essence of Part 2. The Work to be performed under Part

2 shall commence upon execution of a notice to proceed unless otherwise agreed and, subject to authorized Modifications, Substantial Completion shall be achieved as indicated in Article 14.

4.3 The Date of Substantial Completion of the Work or an agreed upon portion thereof is the date when construction or an agreed upon portion thereof is sufficiently complete so the Owner can occupy and utilize the Work or agreed upon portion thereof for its intended use.

4.4 The schedule provided in the Design/Builder's Proposal shall include a construction schedule consistent with Paragraph 4.2 above.

4.5 If the Design/Builder is delayed in the progress of the Project by acts or neglect of the Owner, Owner's employees, separate contractors employed by the Owner, changes ordered in the Work not caused by the fault of the Design/Builder, labor disputes, fire, unusual delay in transportation, adverse weather conditions not reasonably anticipatable, unavoidable casualties, or other causes beyond the Design/Builder's control, or by delay authorized by the Owner's pending arbitration or another cause which the Owner and Design/Builder agree is justifiable, the contract time shall be reasonably extended by Change Order.

ARTICLE 5 PAYMENTS

5.1 PROGRESS PAYMENTS

5.1.1 The Design/Builder shall deliver to the Owner itemized Applications for Payment in such detail as indicated in Article 14.

5.1.2 Within ten days of the Owner's receipt of a properly submitted and correct Application for Payment, the Owner shall make payment to the Design/Builder.

5.1.3 The Application for Payment shall constitute a representation by the Design/Builder to the Owner that, to the best of the Design/Builder's knowledge, information and belief, the design and construction have progressed to the point indicated; the quality of the Work covered by the application is in accordance with the Contract Documents; and the Design/Builder is entitled to payment in the amount requested.

5.1.4 The Design/Builder shall pay each contractor, upon receipt of payment from the Owner, out of the amount paid to the Design/Builder on account of such contractor's work, the amount to which said contractor is entitled in accordance with the terms of the Design/Builder's contract with such contractor. The Design/Builder shall, by appropriate agreement with each contractor, require each contractor to make payments to subcontractors in similar manner.

5.1.5 The Owner shall have no obligation to pay or to be responsible in any way for payment to a contractor of the Design/Builder except as may otherwise be required by law.

5.1.6 No progress payment or partial or entire use or occupancy of the Project by the Owner shall constitute an acceptance of Work not in accordance with the Contract Documents.

5.1.7 The Design/Builder warrants that: (1) title to Work, materials and equipment covered by an Application for Payment will pass to the Owner either by incorporation in construction or upon receipt of payment by the Design/Builder, whichever occurs first; (2) Work, materials and

equipment covered by previous Applications for Payment are free and clear of liens, claims, security interests or encumbrances, hereinafter referred to as "liens"; and (3) no Work, materials or equipment covered by an Application for Payment will have been acquired by the Design/Builder, or any other person performing work at the site or furnishing materials or equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Design/Builder or such other person.

5.1.8 If the Contract provides for retainage, then at the date of Substantial Completion or occupancy of the Work or any agreed upon portion thereof by the Owner, whichever occurs first, the Design/Builder may apply for and the Owner, if the Design/Builder has satisfied the requirements of Paragraph 5.2.1 and any other requirements of the Contract relating to retainage, shall pay the Design/Builder the amount retained, if any, for the Work or for the portion completed or occupied, less the reasonable value of incorrect or incomplete Work. Final payment of such withheld sum shall be made upon correction or completion of such Work.

5.2 FINAL PAYMENT

5.2.1 Neither final payment nor amounts retained, if any, shall become due until the Design/Builder submits to the Owner (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Project for which the Owner or Owner's property might be liable have been paid or otherwise satisfied, (2) consent of surety, if any, to final payment, (3) a certificate that insurance required by the Contract Documents is in force following completion of the Work, and (4) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens arising out of Part 2, to the extent and in such form as may be designated by the Owner. If a contractor refuses to furnish a release or waiver required by the Owner, the Design/Builder may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Design/Builder shall reimburse the Owner for moneys the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

5.2.2 Final payment constituting the entire unpaid balance due shall be paid by the Owner to the Design/Builder upon the Owner's receipt of the Design/Builder's final Application for Payment when the Work has been completed and the Contract fully performed except for those responsibilities of the Design/Builder which survive final payment.

5.2.3 The making of final payment shall constitute a waiver of all claims by the Owner except those arising from:

- 1 unsettled liens;
- 2 faulty or defective Work appearing after Substantial Completion;
- 3 failure of the Work to comply with requirements of the Contract Documents; or
- 4 terms of special warranties required by the Contract Documents.

5.2.4 Acceptance of final payment shall constitute a waiver of all claims by the Design/Builder except those previously made in writing and identified by the Design/Builder as unsettled at the time of final Application for Payment.

5.3 INTEREST PAYMENTS

5.3.1 Payments due the Design/Builder under Part 2 which are not paid when due shall bear interest from the date due at the rate specified in Article 13, or in the absence of a specified rate, at the legal rate prevailing where the principal improvements are to be located.

ARTICLE 6**PROTECTION OF PERSONS AND PROPERTY**

6.1 The Design/Builder shall be responsible for initiating, maintaining and providing supervision of safety precautions and programs in connection with the Work.

6.2 The Design/Builder shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to: (1) employees on the Work and other persons who may be affected thereby; (2) the Work and materials and equipment to be incorporated therein; and (3) other property at or adjacent to the site.

6.3 The Design/Builder shall give notices and comply with applicable laws, ordinances, rules, regulations and orders of public authorities bearing on the safety of persons and property and their protection from damage, injury or loss.

6.4 The Design/Builder shall be liable for damage or loss (other than damage or loss to property insured under the property insurance provided or required by the Contract Documents to be provided by the Owner) to property at the site caused in whole or in part by the Design/Builder, a contractor of the Design/Builder or anyone directly or indirectly employed by either of them, or by anyone for whose acts they may be liable, except damage or loss attributable to the acts or omissions of the Owner, the Owner's separate contractors or anyone directly or indirectly employed by them or by anyone for whose acts they may be liable and not attributable to the fault or negligence of the Design/Builder.

ARTICLE 7**INSURANCE AND BONDS****7.1 DESIGN/BUILDER'S LIABILITY INSURANCE**

7.1.1 The Design/Builder shall purchase and maintain in a company or companies authorized to do business in the state in which the Work is located such insurance as will protect the Design/Builder from claims set forth below which may arise out of or result from operations under the Contract by the Design/Builder or by a contractor of the Design/Builder, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable:

- 1 claims under workers' or workmen's compensation, disability benefit and other similar employee benefit laws which are applicable to the Work to be performed;
- 2 claims for damages because of bodily injury, occupational sickness or disease, or death of the Design/Builder's employees under any applicable employer's liability law;
- 3 claims for damages because of bodily injury, sickness or disease, or death of persons other than the Design/Builder's employees;
- 4 claims for damages covered by usual personal injury liability coverage which are sustained (1) by a person as a result of an offense directly or indi-

rectly related to employment of such person by the Design/Builder or (2) by another person;

- 5 claims for damages, other than to the Work at the site, because of injury to or destruction of tangible property, including loss of use; and
- 6 claims for damages for bodily injury or death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle.

7.1.2 The insurance required by the above Subparagraph 7.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever are greater.

7.1.3 The Design/Builder's liability insurance shall include contractual liability insurance applicable to the Design/Builder's obligations under Paragraph 11.7.

7.1.4 Certificates of Insurance, and copies of policies if requested, acceptable to the Owner shall be delivered to the Owner prior to commencement of design and construction. These Certificates as well as insurance policies required by this Paragraph shall contain a provision that coverage will not be cancelled or allowed to expire until at least thirty days' prior written notice has been given to the Owner. If any of the foregoing insurance coverages are required to remain in force after final payment, an additional certificate evidencing continuation of such coverage shall be submitted along with the application for final payment.

7.2 OWNER'S LIABILITY INSURANCE

7.2.1 The Owner shall be responsible for purchasing and maintaining, in a company or companies authorized to do business in the state in which the principal improvements are to be located, Owner's liability insurance to protect the Owner against claims which may arise from operations under this Project.

7.3 PROPERTY INSURANCE

7.3.1 Unless otherwise provided under this Part 2, the Owner shall purchase and maintain, in a company or companies authorized to do business in the state in which the principal improvements are to be located, property insurance upon the Work at the site to the full insurable value thereof. Property insurance shall include interests of the Owner, the Design/Builder, and their respective contractors and subcontractors in the Work. It shall insure against perils of fire and extended coverage and shall include all risk insurance for physical loss or damage including, without duplication of coverage, theft, vandalism and malicious mischief. If the Owner does not intend to purchase such insurance for the full insurable value of the entire Work, the Owner shall inform the Design/Builder in writing prior to commencement of the Work. The Design/Builder may then effect insurance for the Work at the site which will protect the interests of the Design/Builder and the Design/Builder's contractors and subcontractors, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Design/Builder is damaged by failure of the Owner to purchase or maintain such insurance without notice to the Design/Builder, then the Owner shall bear all reasonable costs properly attributable thereto. If not covered under the all risk insurance or not otherwise provided in the Contract Documents, the Design/Builder shall effect and maintain similar property insurance on portions of the Work stored off-site or in transit when such portions of the Work are to be included in an Application for Payment.

7.3.2 Unless otherwise provided under this Part 2, the Owner shall purchase and maintain such boiler and machinery insurance as may be required by the Contract Documents or by law and which shall specifically cover such insured objects during installation and until final acceptance by the Owner. This insurance shall cover interests of the Owner, the Design/Builder, and the Design/Builder's contractors and subcontractors in the Work.

7.3.3 A loss insured under Owner's property insurance is to be adjusted with the Owner and made payable to the Owner as trustee for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Subparagraph 7.3.8. The Design/Builder shall pay contractors their shares of insurance proceeds received by the Design/Builder, and by appropriate agreement, written where legally required for validity, shall require contractors to make payments to their subcontractors in similar manner.

7.3.4 Before an exposure to loss may occur, the Owner shall file with the Design/Builder a copy of each policy required by this Paragraph 7.3. Each policy shall contain only those endorsements specifically related to this Project. Each policy shall contain a provision that the policy will not be cancelled or allowed to expire until at least thirty days' prior written notice has been given the Design/Builder.

7.3.5 If the Design/Builder requests in writing that insurance for risks other than those described herein or for other special hazards be included in the property insurance policy, the Owner shall, if possible, obtain such insurance, and the cost thereof shall be charged to the Design/Builder by appropriate Change Order.

7.3.6 The Owner and Design/Builder waive all rights against each other and the contractors, subcontractors, agents and employees, each of the other, for damages caused by fire or other perils to the extent covered by property insurance obtained pursuant to this Paragraph 7.3 or other property insurance applicable to the Work, except such rights as they may have to proceeds of such insurance held by the Owner as trustee. The Owner or Design/Builder, as appropriate, shall require from contractors and subcontractors by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated in this Paragraph 7.3. The policies shall be endorsed to include such waivers of subrogation.

7.3.7 If required in writing by a party in interest, the Owner as trustee shall provide, upon occurrence of an insured loss, a bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as trustee. The Owner shall deposit proceeds so received in a separate account and shall distribute them in accordance with such agreement as the parties in interest may reach, or in accordance with an arbitration award in which case the procedure shall be as provided in Article 10. If after such loss no other special agreement is made, replacement of damaged Work shall be covered by appropriate Change Order.

7.3.8 The Owner, as trustee, shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object, in writing, within ten days after occurrence of loss, to the Owner's exercise of this power. If such objection be made, the Owner as trustee shall make settlement with the insurers in accordance with the decision of

arbitration as provided in Article 10. If distribution of insurance proceeds by arbitration is required, the arbitrators will direct such distribution.

7.3.9 If the Owner finds it necessary to occupy or use a portion or portions of the Work before Substantial Completion, such occupancy or use shall not commence prior to a time agreed to by the Owner and Design/Builder and to which the insurance company or companies providing property insurance have consented by endorsement to the policy or policies. The property insurance shall not lapse or be cancelled on account of such partial occupancy or use. Consent of the Design/Builder and of the insurance company or companies to such occupancy or use shall not be unreasonably withheld.

7.4 LOSS OF USE INSURANCE

7.4.1 The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Design/Builder, and its contractors and their agents and employees, for loss of use of the Owner's property, including consequential losses due to fire or other hazards, however caused, to the extent covered by insurance under this Paragraph 7.4.

7.5 PERFORMANCE BOND AND PAYMENT BOND

7.5.1 The Owner shall have the right to require the Design/Builder to furnish bonds covering the faithful performance of the Contract and the payment of all obligations arising thereunder if and as required in the Contract Documents or in Article 14.

ARTICLE 8

CHANGES IN THE WORK

8.1 CHANGE ORDERS

8.1.1 A Change Order is a written order signed by the Owner and Design/Builder, and issued after execution of Part 2, authorizing a change in the Work or adjustment in the contract sum or contract time. The contract sum and contract time may be changed only by Change Order.

8.1.2 The Owner, without invalidating Part 2, may order changes in the Work within the general scope of Part 2 consisting of additions, deletions or other revisions, and the contract sum and contract time shall be adjusted accordingly. Such changes in the Work shall be authorized by Change Order, and shall be performed under applicable conditions of the Contract Documents.

8.1.3 If the Owner requests the Design/Builder to submit a proposal for a change in the Work and then elects not to proceed with the change, a Change Order shall be issued to reimburse the Design/Builder for any costs incurred for Design Services or proposed revisions to the Contract Documents.

8.1.4 Cost or credit to the Owner resulting from a change in the Work shall be determined in one or more of the following ways:

- 1 by mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- 2 by unit prices stated in the Contract Documents or subsequently agreed upon;

- .3 by cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 by the method provided below.

8.1.5 If none of the methods set forth in Clauses 8.1.4.1, 8.1.4.2 or 8.1.4.3 is agreed upon, the Design/Builder, provided a written order signed by the Owner is received, shall promptly proceed with the Work involved. The cost of such Work shall then be determined on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including the expenditures for design services and revisions to the Contract Documents. In case of an increase in the contract sum, the cost shall include a reasonable allowance for overhead and profit. In case of the methods set forth in Clauses 8.1.4.3 and 8.1.4.4, the Design/Builder shall keep and present an itemized accounting together with appropriate supporting data for inclusion in a Change Order. Unless otherwise provided in the Contract Documents, cost shall be limited to the following: cost of materials, including sales tax and cost of delivery; cost of labor, including social security, old age and unemployment insurance, and fringe benefits required by agreement or custom; workers' or workmen's compensation insurance; bond premiums; rental value of equipment and machinery; additional costs of supervision and field office personnel directly attributable to the change; and fees paid to architects, engineers and other professionals. Pending final determination of cost to the Owner, payments on account shall be made on the Application for Payment. The amount of credit to be allowed by the Design/Builder to the Owner for deletion or change which results in a net decrease in the contract sum will be actual net cost. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of the net increase, if any, with respect to that change.

8.1.6 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are so changed in a proposed Change Order that application of agreed unit prices to quantities proposed will cause substantial inequity to the Owner or Design/Builder, applicable unit prices shall be equitably adjusted.

8.2 CONCEALED CONDITIONS

8.2.1 If concealed or unknown conditions of an unusual nature that affect the performance of the Work and vary from those indicated by the Contract Documents are encountered below ground or in an existing structure other than the Work, which conditions are not ordinarily found to exist or which differ materially from those generally recognized as inherent in work of the character provided for in this Part 2, notice by the observing party shall be given promptly to the other party and, if possible, before conditions are disturbed and in no event later than twenty-one days after first observance of the conditions. The contract sum shall be equitably adjusted for such concealed or unknown conditions by Change Order upon claim by either party made within twenty-one days after the claimant becomes aware of the conditions.

8.3 REGULATORY CHANGES

8.3.1 The Design/Builder shall be compensated for changes in the Work necessitated by the enactment or revision of codes, laws or regulations subsequent to the sub-

mission of the Design/Builder's Proposal under Part 1.

ARTICLE 9 CORRECTION OF WORK

9.1 The Design/Builder shall promptly correct Work rejected by the Owner or known by the Design/Builder to be defective or failing to conform to the Construction Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed, and shall correct Part 2 Work under this Part 2 found to be defective or nonconforming within a period of one year from the date of Substantial Completion of the Work or designated portion thereof, or within such longer period provided by any applicable special warranty in the Contract Documents.

9.2 Nothing contained in this Article 9 shall be construed to establish a period of limitation with respect to other obligations of the Design/Builder under this Part 2. Paragraph 9.1 relates only to the specific obligation of the Design/Builder to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Design/Builder's liability with respect to the Design/Builder's obligations other than correction of the Work.

9.3 If the Design/Builder fails to correct defective Work as required or persistently fails to carry out Work in accordance with the Contract Documents, the Owner, by written order signed personally or by an agent specifically so empowered by the Owner in writing, may order the Design/Builder to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the Owner's right to stop the Work shall not give rise to a duty on the part of the Owner to exercise the right for benefit of the Design/Builder or other persons or entities.

9.4 If the Design/Builder defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within seven days after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may give a second written notice to the Design/Builder and, seven days following receipt by the Design/Builder of that second written notice and without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Design/Builder costs of correcting such deficiencies. If the payments then or thereafter due the Design/Builder are not sufficient to cover the amount of the deduction, the Design/Builder shall pay the difference to the Owner. Such action by the Owner shall be subject to arbitration.

ARTICLE 10 ARBITRATION

10.1 Claims, disputes and other matters in question between the parties to this Part 2 arising out of or relating to Part 2 shall be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then in effect unless the parties agree otherwise. No arbitration arising out of or relat-

ing to this Part 2 shall include, by consolidation or joinder or in any other manner, an additional person not a party to Part 2 except by written consent containing specific reference to Part 2 and signed by the Owner, Design/Builder and any other person sought to be joined. Consent to arbitration involving an additional person or persons shall not constitute consent to arbitration of a dispute not described or with a person not named therein. This provision shall be specifically enforceable in any court of competent jurisdiction.

10.2 Notice of demand for arbitration shall be filed in writing with the other party to this Part 2 and with the American Arbitration Association. The demand shall be made within a reasonable time after the claim, dispute or other matter in question has arisen. In no event shall the demand for arbitration be made after the date when the applicable statute of limitations would bar institution of a legal or equitable proceeding based on such claim, dispute or other matter in question.

10.3 The award rendered by arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction.

10.4 Unless otherwise agreed in writing, the Design/Builder shall carry on the Work and maintain its progress during any arbitration proceedings, and the Owner shall continue to make payments to the Design/Builder in accordance with the Contract Documents.

10.5 This Article 10 shall survive completion or termination of Part 2.

ARTICLE 11

MISCELLANEOUS PROVISIONS

11.1 This Part 2 shall be governed by the law of the place where the Work is located.

11.2 The table of contents and the headings of articles and paragraphs are for convenience only and shall not modify rights and obligations created by this Part 2.

11.3 In case a provision of Part 2 is held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not be affected.

11.4 SUBCONTRACTS

11.4.1 The Design/Builder, as soon as practicable after execution of Part 2, shall furnish to the Owner in writing the names of the persons or entities the Design/Builder will engage as contractors for the Project.

11.4.2 Nothing contained in the Design/Builder Contract Documents shall create a professional obligation or contractual relationship between the Owner and any third party.

11.5 WORK BY OWNER OR OWNER'S CONTRACTORS

11.5.1 The Owner reserves the right to perform work related to, but not part of, the Project and to award separate contracts in connection with other work at the site. If the Design/Builder claims that delay or additional cost is involved because of such action by the Owner, the Design/Builder shall make such claims as provided in Subparagraph 11.6.

11.5.2 The Design/Builder shall afford the Owner's separate contractors reasonable opportunity for introduction and storage of their materials and equipment for execution

of their work. The Design/Builder shall incorporate and coordinate the Design/Builder's Work with work of the Owner's separate contractors as required by the Contract Documents.

11.5.3 Costs caused by defective or ill-timed work shall be borne by the party responsible.

11.6 CLAIMS FOR DAMAGES

11.6.1 Should either party to Part 2 suffer injury or damage to person or property because of an act or omission of the other party, the other party's employees or agents, or another for whose acts the other party is legally liable, claim shall be made in writing to the other party within a reasonable time after such injury or damage is or should have been first observed.

11.7 INDEMNIFICATION

11.7.1 To the fullest extent permitted by law, the Design/Builder shall indemnify and hold harmless the Owner and the Owner's consultants and separate contractors, any of their subcontractors, sub-subcontractors, agents and employees from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work. These indemnification obligations shall be limited to claims, damages, losses or expenses (1) that are attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, and (2) to the extent such claims, damages, losses or expenses are caused in whole or in part by negligent acts or omissions of the Design/Builder, the Design/Builder's contractors, anyone directly or indirectly employed by either or anyone for whose acts either may be liable, regardless of whether or not they are caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge or otherwise reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Paragraph 11.7.

11.7.2 In claims against the Owner or its consultants and its contractors, any of their subcontractors, sub-subcontractors, agents or employees by an employee of the Design/Builder, its contractors, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Paragraph 11.7 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Design/Builder, or a Design/Builder's contractor, under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

11.8 SUCCESSORS AND ASSIGNS

11.8.1 This Part 2 shall be binding on successors, assigns, and legal representatives of and persons in privity of contract with the Owner or Design/Builder. Neither party shall assign, sublet or transfer an interest in Part 2 without the written consent of the other.

11.8.2 This Paragraph 11.8 shall survive completion or termination of Part 2.

11.9 In case of termination of the Architect, the Design/Builder shall provide the services of another lawfully licensed person or entity against whom the Owner makes no reasonable objection.

11.10 EXTENT OF AGREEMENT

11.10.1 Part 2 represents the entire agreement between the Owner and Design/Builder and supersedes Part 1 and prior negotiations, representations or agreements. Part 2 may be amended only by written instrument signed by both Owner and Design/Builder.

ARTICLE 12**TERMINATION OF THE AGREEMENT****12.1 TERMINATION BY THE OWNER**

12.1.1 This Part 2 may be terminated by the Owner upon fourteen days' written notice to the Design/Builder in the event that the Project is abandoned. If such termination occurs, the Owner shall pay the Design/Builder for Work completed and for proven loss sustained upon materials, equipment, tools, and construction equipment and machinery, including reasonable profit and applicable damages.

12.1.2 If the Design/Builder defaults or persistently fails or neglects to carry out the Work in accordance with the Contract Documents or fails to perform the provisions of Part 2, the Owner may give written notice that the Owner intends to terminate Part 2. If the Design/Builder fails to correct the defaults, failure or neglect within seven days after being given notice, the Owner may then give a second

written notice and, after an additional seven days, the Owner may without prejudice to any other remedy make good such deficiencies and may deduct the cost thereof from the payment due the Design/Builder or, at the Owner's option, may terminate the employment of the Design/Builder and take possession of the site and of all materials, equipment, tools and construction equipment and machinery thereon owned by the Design/Builder and finish the Work by whatever method the Owner may deem expedient. If the unpaid balance of the contract sum exceeds the expense of finishing the Work, the excess shall be paid to the Design/Builder, but if the expense exceeds the unpaid balance, the Design/Builder shall pay the difference to the Owner.

12.2 TERMINATION BY THE DESIGN/BUILDER

12.2.1 If the Owner fails to make payment when due, the Design/Builder may give written notice of the Design/Builder's intention to terminate Part 2. If the Design/Builder fails to receive payment within seven days after receipt of such notice by the Owner, the Design/Builder may give a second written notice and, seven days after receipt of such second written notice by the Owner, may terminate Part 2 and recover from the Owner payment for Work executed and for proven losses sustained upon materials, equipment, tools, and construction equipment and machinery, including reasonable profit and applicable damages.

ARTICLE 13
BASIS OF COMPENSATION

The Owner shall compensate the Design/Builder in accordance with Article 5, Payments, and the other provisions of this Part 2 as described below.

13.1 COMPENSATION

13.1.1 FOR BASIC SERVICES, as described in Paragraphs 2.2.2 through 2.2.17, and for any other services included in Article 14 as part of Basic Services, Basic Compensation shall be as follows:

13.2 REIMBURSABLE EXPENSES

13.2.1 Reimbursable Expenses are in addition to the compensation for Basic and Additional Services and include actual expenditures made by the Design/Builder in the interest of the Project for the expenses listed as follows:

13.2.2 FOR REIMBURSABLE EXPENSES, compensation shall be a multiple of () times the amounts expended.

13.3 INTEREST PAYMENTS

13.3.1 The rate of interest for past due payments shall be as follows:

(Usury laws and requirements under the Federal Truth in Lending Act, similar state and local consumer credit laws and other regulations at the Owner's and Design/Builder's principal places of business, at the location of the Project and elsewhere may affect the validity of this provision. Specific legal advice should be obtained with respect to deletion, modification or other requirements, such as written disclosures or waivers.)

ARTICLE 14
OTHER PROVISIONS

14.1 The Basic Services to be performed shall be commenced on _____ and, subject to authorized adjustments and to delays not caused by the Design/Builder, Substantial Completion shall be achieved in () calendar days.

14.2 The Basic Services beyond those described in Article 2 are:

14.3 The Design/Builder shall submit an Application for Payment on the _____ of each month.

14.4 The Design/Builder's Proposal includes:

(List below: this Part 2, Supplementary and other Conditions, the drawings, the specifications, and Modifications, showing page or sheet numbers in all cases and dates where applicable to define the scope of Work.)

This Part 2 entered into as of the day and year first written above.

OWNER

DESIGN/BUILDER

BY _____

BY _____